

RESEARCHES IN PARENT EDUCATION III

by

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UNIVERSITY OF IOWA STUDIES
STUDIES IN CHILD WELFARE

VOLUME X

Published by the University
Iowa City, Iowa
1935

FOREWORD

In this third volume of parent education researches the work of Dr. Ralph H. Ojemann and his associates contributes not only to parent education as such but to educational psychology as a scientific branch. It throws light on important problems of learning and teaching at almost every age level.

In Part Two will be found an analysis of hundreds of generalizations in parent-child relationships. It forms a basis for a sound curriculum in parent education. Part Three illustrates the feasibility of measuring parental attitudes, while in Part Six Mrs. Hedrick utilizes the new tools in a practical teaching situation.

The studies of Doctor Ackerley and Doctor Butler show what parents and high school pupils need in order to deepen their insight into child development and behavior and propose ways of meeting these needs.

GEORGE D. STODDARD.

Office of the Director
Iowa Child Welfare Research Station
University of Iowa
June 21, 1934

CONTENTS

Chapter	Page
PART ONE. THEORETICAL CONSIDERATIONS UNDERLYING CURRICULAR AND LEARNING STUDIES	
RALPH H. OJEMANN	
The Nature of Learning Products	9
The Source of Objectives	15
Special Problems Relating to Generalizations	18
Special Problems Relating to Attitudes	26
PART TWO. GENERALIZATIONS RELATING TO CHILD DEVELOPMENT INVOLVED IN INTELLIGENT PARENTAL GUIDANCE	
RALPH H. OJEMANN	
Structure of the Generalizations	32
Importance Judgments	34
Importance Scores for the Generalizations	37
Generalizations	40
Summary	98
PART THREE. THE MEASUREMENT OF ATTITUDE TOWARD SELF-RELIANCE	
RALPH H. OJEMANN	
Construction of Tests	104
Administration of Tests	107
Reliability of Tests	107
Validity of Tests	108
Distribution of Attitude Scores	109
The Optimum Attitude	109
The Needs of the Learner	111
Summary	111
PART FOUR. THE INFORMATION AND ATTITUDES REGARDING CHILD DEVELOPMENT POSSESSED BY PARENTS OF ELEMENTARY SCHOOL CHILDREN	
LOIS ALBERTA ACKERLEY	
I. Methods for the Determination of Parents' Needs	115
II. Selection of Generalizations	118
Compiling the Generalizations	118
Evaluating the Generalizations	119

Chapter	Page
III. Construction of Tests	124
Differentiating Attitudes and Knowledge Tests	124
Selecting Test Types and Items	125
Preparing Scoring Key	133
IV. Administration of Tests	135
Personnel of the Subjects	135
Oral Presentation	136
Interview Method	136
V. Results	138
Validity	138
Reliability	139
Other Criteria	140
Analysis of Responses	140
VI. Summary and Conclusions	164
References	167

**PART FIVE. A STUDY OF THE NEEDS OF HIGH SCHOOL
STUDENTS AND THE EFFECTIVENESS OF A PROGRAM
OF LEARNING IN SELECTED PHASES OF CHILD
DEVELOPMENT AND FAMILY RELATIONSHIPS**

EVELYN INI BUTLER

I. The Importance of Training in Child Development and Family Relationships for High School Pupils	171
II. Determining the Generalizations Which Are of Importance to High School Pupils	174
Personnel of the Judges	175
Reliability of Ratings	177
Scoring the Generalizations	177
III. Construction of Tests	178
Knowledge Tests	179
Attitude Scales	181
Scoring Key	183
IV. Administration of the Tests	185
V. The Needs of High School Pupils	188
Analysis of Response to Tests With Situations	189
Analysis of Responses to Tests Without Situations	210
Placement of Pupils on Attitude Scales	222
Selectivity of Test Items	229
Summary	231
VI. Building a Program of Learning Experiences	232
VII. The Effectiveness of a Program of Learning Experiences in Child Development and Family Relationships for High School Pupils	237
Interpretation of Results of Knowledge Tests	242
Improvement on Self-Reliance Scales	242
Summary	244

CONTENTS

7

Chapter	Page
VIII. Summary	245
References	248

PART SIX. THE EFFECTIVENESS OF A PROGRAM OF LEARNING DESIGNED TO CHANGE PARENTAL ATTITUDES TOWARD SELF-RELIANCE

BLANCHE E. HEDRICK

The Problem	251
Procedure	252
Changes Produced in the Parents as a Result of Learning Ex- periences	259
Summary and Findings	265
References	268
Appendix I. Basic Data for Generalizations Relating to Child Development	269
Appendix II. Tests for the Measurement of Attitude Toward Self-Reliance	343
Appendix III. Directions to Judges and Test Items for Infor- mation and Attitudes Regarding Child Development Pos- sessed by Parents of Elementary School Children	357
Appendix IV. Forms and Data Regarding a Study of the Needs of and Program of Learning for High School Stu- dents	381

PART ONE

**THEORETICAL CONSIDERATIONS
UNDERLYING CURRICULAR AND
LEARNING STUDIES**

by

RALPH H. OJEMANN, Ph.D.

THEORETICAL CONSIDERATIONS UNDERLYING CURRICULAR AND LEARNING STUDIES

Two important areas of research in parent education are represented by the studies of objectives and needs and the studies of the learning potentialities of parents. The investigations reported in this monograph relate to these two fields. Underlying these studies are certain fundamental assumptions as to the nature of changes produced in learning and the sources of knowledge of desirable changes or objectives toward which the learner may strive. These fundamental hypotheses will be discussed in this section under the following headings: (1) the nature of learning products, (2) the source of ideas as to desirable objectives, and (3) special problems arising in the formulation of objectives in the realms of (a) knowledge and (b) attitude.

THE NATURE OF LEARNING PRODUCTS

Descriptions of desired learning products or objectives of education have varied from general, all-inclusive statements to extended lists of details. Examples of general statements are Plato's *Perfect Guardians of the State*, Comenius' *The Development of the Whole Man*, Locke's *Sound Mind and Sound Body*, Herbart's *Well Balanced and Many-Sided Interests*, and *The Development of Personality* of many present day writers. Such general concepts are valuable for summing up the results of education, but they do not appear to be sufficiently meaningful to furnish the basis for precise discussion or to serve as guides for the selection of learning experiences. To be useful for such purposes they must be analyzed in much greater detail. Since these limitations of general statements have been recognized, we may pass immediately to the different attempts to describe objectives of education in more detail.

The first level of analysis is illustrated by Herbert Spencer's list of important human activities: (1) the activities of self-preservation, (2) those needed for subsistence, (3) those that pertain to the rearing and training of offspring, (4) those that promote social and political

relations, and (5) those leisure activities that gratify tastes and feelings. Another example is furnished by the seven cardinal principles proposed by the commission on the reorganization of secondary education.¹ This list includes the following categories: (1) health, (2) command of fundamental processes, (3) worthy home membership, (4) vocation, (5) citizenship, (6) worthy use of leisure, and (7) ethical character. Another example is the list of activities proposed by Bobbitt² in his earlier publication: (1) language activities or social intercommunication, (2) health activities, (3) citizenship activities, (4) general social activities, (5) spare time activities, (6) keeping one's self mentally fit, (7) religious activities, (8) parental activities, the up-bringing of children, the maintenance of proper home life, (9) unspecialized or nonvocational practical activities, and (10) the labors of one's calling.

It has also been generally recognized that this first level of analysis is still too general for purposes of curriculum making and that more detail is necessary. It is at this second or highly detailed level that difficulty with the concept of the nature of objectives has arisen. Bobbitt in his earlier studies used the concept "ability." Each of the major classes of human activity was detailed into an extensive list of "abilities."

Bobbitt recognized the complex psychological nature of an "ability" and later discarded the concept in favor of the term "activity." "The first step in modern curriculum-making is to formulate a statement of the activities which constitute a proper quality of human living. These are the objectives. They are the processes. They are the curriculum."³ Charters has employed the two concepts, ideals and activities.

An analysis of the concept "activity" as used in these studies seems to indicate that the emphasis is placed upon the overt character of behavior. This emphasis does not appear to be a satisfactory one for curriculum making unless one is concerned mainly with habitual

¹United States Bureau of Education, Department of the Interior: *Cardinal Principles of Secondary Education: A Report of the Commission on the Reorganization of Secondary Education.* (U. S. Bur. Educ. Bull., 1918, No. 35) Washington, D. C.: Government Printing Office, 1922. Pp. vii, 27.

²Bobbitt, Franklin: *How to Make a Curriculum.* Boston, Mass.: Houghton Mifflin, 1924. Pp. 272. (p. 89)

³Bobbitt, Franklin: *The Orientation of the Curriculum-Maker.* [In] *The Twenty-Sixth Yearbook of the National Society for the Study of Education. Part II. The Foundations of Curriculum-Making.* Bloomington, Ill.: Public School Publishing Co., 1926. Pp. xi, 255. (p. 41-55; especially p. 49)

behavior carried on with a minimum of thinking and performed in essentially the same fashion each time. Adaptable behavior which involves thinking varies according to the situation in which the subject finds himself. For example, when an executive is confronted with a complex problem, he considers the important factors and in the light of these determines what to do. He may hold a conference, or plan a report, or extend his advertising. The next time he meets the problem the situation may have changed and he will have to vary his behavior accordingly. To emphasize the overt character of the activity that finally results and to classify this activity accordingly is misleading. The important elements in the situation and those common to all similar situations are the generalizations (facts, principles, hypotheses) that were employed in thinking to determine what to do.

We may illustrate this point further by drawing a few examples from the activities of parents. An intelligent parent will engage in a highly varied set of activities in supervising the play of the child. These overt activities are controlled by generalizations functioning in thinking, attitudes, etc., and will vary as the situation varies. Similarly, the activity engaged in when we take a child on a trip, reward a child, or provide food may take a thousand different forms, but the generalizations needed in thinking to guide this variety of activity are relatively few.

This analysis of adaptable behavior gives us the clue as to where to place the emphasis. An analysis of behavior in terms of its psychological nature will enable us to deal with the infinite variety by revealing the generalizations, attitudes, and other psychological elements that are common to different situations and upon which the overt activity is based. It appears, therefore, that objectives derived from a psychological analysis are more useful than those derived from an analysis of the external aspects of activity.

An analysis of behavior from this point of view reveals several different types of elements. In the studies to be reported later in this monograph at least four types have been recognized, that is, knowledge of generalizations, attitudes, emotional patterns, and habituated reactions. We are, however, extending our analysis to determine what other concepts will be required. For example, it has been pointed out frequently that the ability to think is an important outcome of learning. It appears that this ability, as other general abilities,

is of a complex psychological character and requires analysis. It may involve, for example, a certain attitude toward any difficult situation that arises. It may also involve an attitude toward the use of thinking in adjustment, as well as so thorough an understanding of important generalizations that they will be recalled when one is confronted with a problem. Similarly, fundamental satisfactions or dissatisfactions appear to be important elements of behavior. At present we are working on a plan to include them in our list of types of objectives.

The emphasis upon the psychological nature of behavior has a further advantage in that it gives an indication of the types of learning experiences that will be needed to develop intelligent behavior. Learning is a psychological process. A statement of the desired outcomes in terms of psychological concepts enables us to some extent to select the types of experience needed. For example, if the outcome desired is an understanding of a generalization to be used in thinking, such experiences as reading an exposition to learn what the generalization is and using the ideas in solving a variety of problems are needed. On the other hand, if the outcome desired is an attitude, the reading of inspirational material or the listening to an inspirational lecture may be most helpful.

The question arises whether we are doing violence to the unity of the organism by separating, for example, generalizations used in thinking from attitudes and other types of emotional reactions. At the time an individual is solving a problem attitudes are also functioning. The attitude may be, for example, one of violent dislike for the experiences. Can we separate thinking from emotional reactions, emotional reactions from simple skills, etc.?

The answer lies in our concept of a classification. When we classify the planets and stars of the universe and center our discussion for a time on a planet, we do not imply that this one element is all there is in the universe, nor do we imply that it is without influence on the rest of the universe. It is a characteristic of attention that we can deal intensively with only a small portion of the world of experience at a given moment. The real import of the slogan "the whole organism" is not that attention at all times should be all-embracing but that the focus of attention should in due time be centered upon the various portions of experience and that no portion, including the interrelationships, should be omitted. Therefore,

when we classify the activity of the organism, we are merely emphasizing one aspect at a time. When we say that a generalization is operating in thinking, we are aware that there may be emotional accompaniments. These emotional accompaniments are emphasized when we view the same activity from the feeling standpoint.

THE SOURCE OF OBJECTIVES

The classification of the outcomes of learning is the first question that we proposed at the outset of our discussion. The second problem is concerned with the method of selecting the learning products that we desire to produce through parent education. The importance of this question may be illustrated by one or two examples. There are many more generalizations in child development than parents have time to learn. Even the teacher of child psychology does not profess to know the entire field in detail. Again, in the case of attitudes we can produce by appropriate guidance of experiences a variety of opposing attitudes. For example, we can develop attitudes favorable to bottle feeding or unfavorable to it, attitudes favorable to a high degree of self-reliance or opposed to it. What we need is some method of selecting the learning products we desire.

The selection we make ultimately depends upon the kind of life we wish to perpetuate. Some curriculum makers have made an analysis of things as they now are. The inadequacy of the present situation as a guide to the future is easily seen upon a moment's thought. Some curriculum makers have taken a consensus of opinion or the average practice of an unselected sample of the general population. The chief difficulty with this method is that most people are not intensive students of society. They have at hand but a small portion of the experiences of the race and often have given the problem little or no thought.

What is needed is some method whereby the experience of the race, both that represented in the trends of civilization, that is, the knowledge of relationships developed through human experience over a long period of time, and that developed through controlled experimentation, is brought to bear upon the problem. Furthermore, since knowledge is continually changing, the method of selecting objectives must be sufficiently adaptable to take account of new developments. These considerations have led us to the use of judgments of a group of highly trained individuals in action. Applied to parent education,

it involves obtaining the judgments of those persons who are actually guiding children but who are at the same time students of child development, of society, and of parental psychology, and who are acquainted with the best that is known concerning what changes we wish to produce in children and what the function of parents is in bringing about these changes. Being a student of child development and of society implies striving toward optimum practice, not average practice. A group of individuals is used in order to increase the range of experience and to counteract the special influences which may operate in the judgment of one individual.

These highly trained individuals in action are asked to make an introspective analysis of the procedures involved in the intelligent guidance of children to determine what generalizations are most important, what attitudes are involved, etc. In the actual application of the method to generalizations, for example, the judges are given an extended list and are asked on the basis of their analysis to record an importance rating for each generalization.

The advantage gained in using individuals who are in action, that is (as applied to parent education), actually guiding children, is that each judge has his own experiences as well as a range of vicarious experiences available to assist him in making judgments. This tends to be a more adequate test than that furnished by vicarious experiences alone. The advantage is somewhat analogous to that obtained when further experimentation is used as a check of hypotheses.

In obtaining a consensus of expert judgments three considerations become of immediate importance. The first is that using judgments is not a thoroughly objective method. The second is that the changes we wish to produce vary from generation to generation. The third is that the experts among parents are not the only ones to be considered. Ordinary parents should have a voice in the matter. We shall discuss each consideration briefly.

Before discussing the first objection we wish to point out our conception as to the nature of ideas of value. By resorting to the use of judgment we do not wish to imply that standards of values are derived from speculative thought in a *priori* fashion. Ideas of value do not appear to be different psychologically from other ideas. They are derived from our experiences with the results or consequences of modes of action. This is indicated by the fact that our standards of values are modified by experience.

The reply to the criticism that the use of judgment is not a strictly objective procedure is that we cannot, in our present state of knowledge, escape judgment. There are too many relationships involved for which we have only crude observation. For example, what is the optimum relationship between the parent and the institutions of society, such as the church, the school, the public playground? To determine this experimentally is a difficult procedure and will not be completed for some time; but this does not mean that it cannot be done or that it will not be done. In fact there is considerable indication that carefully planned comprehensive experiments involving a tremendous amount of intelligent coöperation is the only road to racial survival. Our reason, therefore, for using judgment is essentially that refined knowledge is incomplete. Simultaneous with the use of judgment, we are fostering experiments to make the knowledge of important relationships more accurate. This more refined knowledge will continually replace opinions of relationships.

That our idea of what is desirable changes is readily granted, but this objection does not affect the method proposed above. It merely affects the administration of the method. The process of selecting the material by a consensus of judgments is to be repeated from time to time. As far as we can see at present our ideas of values will always keep changing and this merely means that the curriculum must be repeatedly revised.

The third consideration, namely, that ordinary parents should have a voice in the selection of the learning outcomes desired, arises from a misconception of the term "highly trained." A "highly trained" person, as here conceived and as stated above, is one who knows children and who also knows parents, that is, one who knows what parents say they need but who reserves the right to interpret their statements of need. The untrained parent might change his mind as to what he needs if he had at hand the cumulative experiences of the race to use in making his judgment. Every teacher of parent education classes has seen remarkable changes in the attitudes of learners toward their needs—changes brought about by an increase in parents' knowledge of child development. This statement holds true even if it is confined to those changes that are in the direction of what experts are agreed is favorable to the optimum development of children.

The application of this method to generalizations and attitudes

will be illustrated in the following studies of this monograph. Before turning to a discussion of the special problems, we may point out the relation of the procedures described thus far to curriculum making. The determination of the type of classification most useful and the learning products desired are only the first steps. The next step is to determine what the needs of parents are. By "need" is meant the difference between what is already present and what is desired. The last step consists in selecting learning experiences necessary to develop the desired outcomes, that is, what lectures to use, what reading materials to select, and what observations to perform. All of these steps are illustrated in the studies in this monograph. Before presenting them, however, we shall consider several special problems that arise in formulating generalizations and in specifying objectives in the realm of attitudes.

SPECIAL PROBLEMS RELATING TO GENERALIZATIONS

Concept of Validity

The first problem in the formulation of generalizations relates to validity. It arises from the fact that the body of knowledge in any field, including the fields of child development and family life, is continually growing. This growth results from the application of more highly refined techniques of investigation. In a field in which little work has been done, knowledge is based upon crude observations of limited experiences. As soon as opportunities are made available, more refined methods of discovering knowledge are applied. This evolution in refinement of knowledge is going on in any subject in which serious workers are engaged. Different portions of the field, however, may share unequally in this development with the result that at any moment the body of knowledge may represent large differences in refinement. Some of the principles may be based upon carefully controlled research studies; others may represent nothing more than the opinions of a few workers who are generalizing from their everyday experiences. Furthermore, if the field is a growing one, rapid changes in validity may take place.

These considerations apply especially to parent education materials. The fields of nutrition, physical growth, and child psychology are rapidly growing by the application of highly developed research techniques. On the other hand, the subjects of family and com-

munity relationships are much more difficult to investigate and but few of the principles are based upon scientific research.

What, then, should the curriculum maker in parent education do? Should he select only the material that is based upon carefully controlled research and discard the generalizations based upon individual experiences? Or should he include the semi-refined materials?

The answer that we have adapted to this question is essentially as follows: The validity of any generalization whether based upon limited experiences or refined research is a matter of degree. Even research techniques are being refined continually with the result that many of those in use twenty years ago appear crude to research workers now, and there is a high probability that a similar statement can be made for many present-day techniques twenty years from now.

In educating students in the principles of any field all that can be done is to teach the most valid principle available at that time plus some indication of the refinement of the technique by which it was derived. If research data are available, these form the most valid bases of the generalizations. If crude observation of limited experiences is all that is available, the opinions of a group of workers such as clinicians, teachers, and others who have had extensive experience with children in some relatively highly trained professional capacity are used. In the latter case a group of opinions are sought in order to secure as wide a range of experience as possible and to counteract the effect of special influences upon individual judgments. Each generalization, then, is based upon extensive data from research studies, or if these are not available upon the statements from several observers.

The assumption that statements based upon individual experiences are valuable is supported by the fact that when a comparison is made between the success in guiding children experienced by parents who apply the most valid knowledge, even though the bases of many of the principles are as yet only crude observations, and the success experienced by parents who do not apply these principles, independent observers agree that the composite judgments from crude experiences are a decided improvement over ignorance. The real harm appears to come not from teaching semi-refined principles when none other are available, but in failing to substitute more refined knowledge as soon as it has been developed.

The emphasis upon the validity of a generalization appears to the

writer to be extremely important, especially in the field of the social sciences. It takes account of the gradual shading off of that which, in the pragmatic sense, has been observed within a given probable error, into the realm which is practically unexplored and, therefore, problematic. It seems to strike at the root of the quarrel between indoctrination and its opposite, between those who would divorce knowledge from the ability to think and those who consider knowledge as an aid to thinking. Developing an understanding of a generalization which includes an indication of the method by which it was derived is not the same as requiring a student to accept a conclusion in the area of the problematical.

In the actual work of formulating generalizations in our investigations, we have examined first the research studies within a given field and have extracted whatever generalizations the data warrant. We have then turned to the written materials prepared by such workers as clinicians, nursery school teachers, parent educators, and others who have had extensive experience with children in some professional capacity. All the materials relating to each topic such as physical growth, mental growth, emotional development, and play included in the writings of approximately ten authors have been analyzed into convenient units of generalizations as determined by two workers and the materials for each unit have been assembled in manila folders. The summaries of the units when brought together constitute an extensive list of generalizations based upon the best that is available. It is also possible by this arrangement to add to any folder the findings of new research studies and new opinions as rapidly as they are developed and to reformulate the summary if necessary.

We may add a note as to the character of the material so obtained. In parent education there has been expressed frequently the need for materials that incorporate the results of research findings. The materials we have developed not only include all the findings of all the important research studies that we have been able to locate, but they are in such a form that we can quickly add new findings and keep them up-to-date.

Degree of Generalization Desirable

The discussion thus far has been concerned with our first problem, namely, the concept of validity. The second question relates to the degree of generalization of knowledge that is desirable from the standpoint of mental economy and intelligent behavior. The importance

of this question will be apparent when we consider two extremes. On the one hand, we have writers who emphasize the importance of principles. They point out, for example, that two situations are never the same and that, therefore, parents need principles of child development which can be used intelligently in thinking. On the other hand, there is a group of writers who emphasize highly specific elements, especially isolated problems which parents meet, and highly specific methods of dealing with situations commonly found in homes. The latter type of writer frequently points out that parents do not have time to spend in learning general principles which very frequently contribute little to the understanding of real problems.

Both of these contentions are in a measure justified, but the difficulty is not that principles are useless in practice but that, for the most part, they are formulated in too general terms—terms so general that much of the material is meaningless. We can best illustrate this by a few examples. It is pointed out, for example, that there are large individual differences among children of the same age in the amount of food they need, the amount of sleep they need, and the rate of development in important behavior patterns. Then, frequently the discussion stops there. When the parent is confronted with the question as to what constitutes a satisfactory nutritional status for his child or how he is to estimate the amount and quality of sleep, he is at a loss. He has been told that children differ but that is not all he needs. In fact, he probably knew that before. What is needed is some knowledge of the factors that are related to this variation and the methods of taking them into account in estimating the requirements of the individual child. We may cite other examples of inadequate statements such as: Spending as much time as possible out-of-doors is favorable to optimum development; a sufficient variety of play materials is desirable; there should be a balance between routines and free time; it is important that there be harmony between parents; and temper tantrums will gradually disappear.

The difficulty in such cases appears to be two-fold. Some of the principles are so general and attempt to cover so much ground that they cannot be given meaning or be used intelligently unless they are broken down into less general principles. In other cases the level of generalization is satisfactory but the statement is not sufficiently complete to make its application possible. We shall discuss the level of generality first.

To illustrate different levels of generalization we may take an example from the field of nutrition. The reason for selecting this example which relates specifically to vitamin D is that the various steps from exceeding specificity to exceeding generality are known and can be reconstructed easily. These steps are given in the diagram on page 23.

In the early investigations of the causes of rickets it was found that there was some relation between diet and the prevalence of disease. Some of the experiments showed that the administration of cod-liver oil prevented the occurrence of the disease and brought about improvement in rachitic animals. These results were confirmed by experiments in several laboratories, and the generalization that cod-liver oil contains an ingredient which is essential to the prevention of rickets came to be generally accepted. It was also found that rachitic animals improved if they were exposed to sufficient sunlight. This result was confirmed by other laboratories and the generalization soon appeared established. Experiments also showed that ultraviolet light possesses curative properties. Still other experiments showed that irradiated foods are anti-rachitic. These generalizations were built up into the more inclusive principle that vitamin D which is found in such substances as cod-liver oil, sunlight, ultraviolet light, and irradiated foods is essential to the prevention of rickets.

We may now add another level of generalization which appears at the extreme right of our diagram. It is inserted here to illustrate what is meant by a principle that is too general. We could combine the findings with reference to the important food constituents into the statement that children respond favorably to the right kind of food. This statement may appear superfluous to us, but it is analogous to what we find in a discussion which emphasizes the importance of providing a sufficient variety of play materials without indicating what "sufficient variety" means and how it is to be estimated, or in a discussion which emphasizes the importance of proper emotional adjustment on the part of parents without further consideration of how "proper emotional adjustment" is to be identified. We have, then, in the diagram, statements varying from extreme specificity to extreme generality. The question before us is: What level of generalization shall we select?

The higher the level of generalization the wider its application. It is, therefore, a part of mental economy to bring the principle up

Results of many individual experiments with rachitic diets adequate in Ca and P supplemented by cod-liver oil (with and without removal of vitamin A)	Cod-liver oil possesses an anti-rachitic factor. This factor is different from vitamin A	Vitamin D furnished by cod-liver oil, sunlight, ultra-violet rays, and irradiated foods is an essential factor for optimum growth. Proper kind of food is essential for good growth.
Results of many individual experiments with rachitic diets adequate in Ca and P supplemented by sunlight	Sunlight possesses curative properties for rickets.	
Results of many individual experiments with rachitic diets adequate in Ca and P supplemented by artificial ultra-violet light	Ultra-violet light is anti-rachitic.	
Results of many individual experiments with rachitic diets adequate in Ca and P supplemented by irradiated foods	Irradiated foods are anti-rachitic.	

to the highest degree at which it still has meaning. A principle has meaning if it can be applied to thinking. There is some evidence, however, that meaning varies with intelligence. For example, in the illustration cited above it may be difficult for parents of very low intelligence to understand that on a diet containing calcium and phosphorus there must be added vitamin D and that any good source of vitamin D will do. This source may be cod-liver oil, sunlight, ultra-violet ray, irradiated foods, or a combination of these. It may be possible that people of extremely low intelligence can understand and apply only the generalization that cod-liver oil is essential for good bone growth. On the other hand, there is also some evidence that good teaching can raise the level of generalization on which the student functions.

In the preparation of our materials we have assumed good teaching and have raised each generalization to the highest level at which it can be applied by practically all parents except those of extremely low learning ability. We have determined the appropriate level for the individual generalizations by a consensus of three judges familiar with child and adult psychology. It is possible to develop an experimental method of dealing with this problem, but since the possible levels of generality change with the advance of knowledge, it does not yet appear feasible to apply the more refined method.

Frequently the level of generalization is satisfactory but the discussion of the generalization is not sufficiently complete to make its application possible. In the illustration given above it is not possible to apply the principle that vitamin D is essential to good growth and that this may be supplied by the liver oils of fishes, by sunlight, or by ultra-violet light unless one has in addition some guide as to the amount needed.

We may cite another illustration from the general topic of emotional development. It has frequently been pointed out that temper tantrums are a normal form of anger reaction in young children. It is, therefore, not an indication of failure in child guidance on the part of the parent if the two-year-old child has temper tantrums. But this is only a part of the story. We can easily imagine an environment in which the two-year-old child is frustrated in his desires to such an extent that the number and intensity of temper tantrums is much greater than a group of experts in child psychology would consider desirable or necessary. In other words, the principle

as it stands is not complete. It needs considerable addition before it can be applied in action.

In this connection a distinction should be made between a complete generalization which is to be used in thinking and a definite prescription. They are not the same. The complete generalization places upon the person using it the responsibility of making a decision as to what to do in a particular case. The definite prescription includes the judgment. The important point in judging a discussion as to the completeness of the generalization is whether enough material is supplied to make possible the judgment required.

To test a discussion from this point of view we are using two methods: The first is the shorter method which relies on the judgment of a group of experts; the second method is an experimental one. In the second method, the discussions of generalizations are submitted to subjects of known intelligence who have been trained in introspection. They are required to solve a set of problems involving the principles and to indicate what ideas they used in solving them. The essential ideas used by them are checked against the discussion materials to determine what has been omitted.

Classification of Generalizations

The final problem relates to the classification of generalizations. Since any classification is in the main a matter of convenience, the number of possible classifications is almost endless. For purposes of parent education, however, we have found it useful to recognize two types. We may classify generalizations in terms of a systematic and somewhat academic scheme. Examples of categories in this classification are: physical growth, motor development, intellectual development, and emotional development. Or we may classify generalizations in terms of the situations or activities in which the parent uses them. Examples of this type of classification are: guiding the child in activities related to eating, guiding him in activities connected with sleep, guiding the child's sex education, and guiding the child's learning of the use of money.

This double classification appears necessary since there is some indication that for teaching purposes the first courses may group generalizations in terms of general situations in which the parent uses them, while later courses may group them according to different aspects of the development of the child.

SPECIAL PROBLEMS RELATING TO ATTITUDES

Knowledge when used in thinking equips man for adaptations to new situations. An attitude, on the other hand, partakes more of the nature of a pattern of fixed behavior. For example, let us suppose that we hold an attitude distinctly unfavorable to the Chinese. Through influences of various kinds we have developed a feeling of dislike toward them. Let us suppose further that suddenly we find ourselves in the presence of an unintelligent and uncultured Chinese who does a great many things that we dislike. We find that we have no difficulty with our attitude. We disliked Chinese before we met this particular one, and we can easily continue our dislike.

But now let us suppose that we are placed in close association with an intelligent and cultured member of the Chinese race who has many characteristics that we admire and that we cannot ignore. The situation produces a conflict that can be solved ultimately only by a revision of our attitude. If we had come not with a strong attitude of favor or disfavor but armed with a knowledge of Chinese and had relied upon our ability to think our way through whatever situation we happened to meet, we would not have reached the painful *impasse*.

The question then arises, if attitudes partake of the nature of patterns of fixed behavior, do they have a place in a learning program designed to assist development toward optimum adjustment? One answer, of course, is that we cannot help ourselves. Some sort of attitude is developed. But this need not necessarily be an attitude either strongly favorable or strongly unfavorable to the psychological object. The attitude may be one of open-mindedness or unwillingness to make even an approximation.

Furthermore, we may consider differences among various attitudes. It may be that for some attitudes the experiences of the race have so far indicated no definite relation between the degree of favorableness or unfavorableness and optimum adjustment. For other attitudes a more definite relation may be apparent. For example, if we ask a group of highly trained and intelligent individuals who are engaged in the process of guiding children what degree of favorableness or unfavorableness toward a particular object they have found conducive to what they consider optimum development, we may find with the use of a carefully constructed scale that for some attitudes the range is relatively narrow. On the other hand, in other attitudes the range may extend in degree from one extreme to the other. In

the first type, if we follow the method of determining objectives discussed earlier, we have a possible objective toward which the learner may be directed. In the latter type there is no similar indication, and we cannot logically proceed with the building of a learning program. In such cases it appears that we must restrict ourselves to the underlying knowledge.

In our studies of objectives as applied to attitudes we have attempted to keep in mind the possibility of this difference. A scale for measuring a given attitude was first constructed. These scales were then submitted to a group of highly trained persons engaged in the process of guiding children. These individuals were asked to indicate what they considered an intelligent or mature attitude, that is, an attitude most conducive to optimum development as they conceived it. If the range was relatively narrow, the next step was to study the needs of the learner and to test the effectiveness of programs of learning. If the range covered almost the entire scale, we did not attempt an investigation of needs or of learning programs for that particular attitude.

It is highly essential that the theory underlying the use of trained judgments be recognized in determining objectives in the realm of attitude as well as in the realm of knowledge. These judgments are based upon the best knowledge available. As the race acquires more knowledge, the judgments must be remade. The change in knowledge may occur either in knowledge of relationships pertaining directly to child development or in knowledge of the optimum distribution of functions between the family and other agencies of society.

PART TWO

**GENERALIZATIONS RELATING TO CHILD
DEVELOPMENT INVOLVED IN
INTELLIGENT PARENTAL
GUIDANCE**

by

RALPH H. OJEMANN, Ph.D.

GENERALIZATIONS RELATING TO CHILD DEVELOPMENT INVOLVED IN INTELLIGENT PARENTAL GUIDANCE

In the theoretical analysis presented in Part I, one of the types of changes effected through learning was designated as the development by the learner of a knowledge or understanding of a generalization. The field of child development embraces many generalizations. Some of these are of great importance to parents in guiding the development of their children intelligently; others are of less importance. The importance and use of some may be confined to specialists whose purpose is to supply a particular type of help when the parent needs it.

In the construction and administration of parent education programs, therefore, a selection of generalizations is made. The process of selecting presupposes a knowledge of the relative importance of various principles in intelligent parental guidance. These data, however, are not available. It is the purpose of this study to build an extensive list of generalizations relating to child development and to determine their relative importance to parents by the method of composite judgments described in the previous section.

Before proceeding to a description of the study itself, it is helpful to point out the concept of learning which underlies this work. The changes effected through learning may be emotional as well as intellectual in character. The nature of the process of attention is such that the span of attention must be limited when intensive consideration is desired. In this study we are considering changes which are essentially intellectual in nature. Similar studies of changes which are emotional in character are included in the research program of which this study forms a part. Hence this investigation, as all investigations under the direction of the writer, is to be considered and interpreted in relation to a research program.

It may also be helpful to call attention to the fact that this study does not assume knowledge to be an end in itself. The end is in-

telligent guidance. Guidance, however, involves thinking—that is, solving new difficulties or situations—and knowledge is an indispensable tool in the process of thinking.

In an analysis of the major problem of this investigation, several questions present themselves. (1) How can an extensive list of generalizations be built up? (2) It was indicated in Part I of this monograph that importance ratings are based upon the judgments of highly trained individuals. Judgments tend, other conditions remaining approximately the same, to increase in reliability as more judges are included. How many must be used to obtain a fairly satisfactory coefficient of reliability, that is a coefficient of, let us say, .85 or .90, or even higher? (3) Using a composite judgment which has a satisfactory reliability, what is the relative importance of the various generalizations for fathers and for mothers? (4) How does the importance vary as between fathers and mothers?

The steps in carrying out the study consisted in building an extensive list of valid generalizations, obtaining importance judgments, and analyzing the data. These steps will be discussed in order.

STRUCTURE OF THE GENERALIZATIONS

Building the Generalizations

For convenience in treatment, the field of child development was divided into sections bearing such labels as intellectual development, emotional development, physical growth, etc. In this study eleven sections are included.

As a starting point in building generalizations, research studies in child development and reports of observations by writers with extended experiences were gathered together. This material was divided into units, each of which represents a generalization, and the material in each unit examined. If research studies were available they formed the basis upon which the generalization was built. If research studies were not available, the reports of all the observers contributing were combined and the generalizations derived from these data.

The actual mechanics of the process have been described elsewhere.¹ It may be emphasized again that an attempt was made to devise a system which makes it possible to assimilate new knowledge as rapidly

¹Ojemann, Ralph H.: A Standard for Estimating the Validity of Child Development Principles. [In] *Researches in Parent Education I*. Univ. Iowa Stud., Stud. in Child Welfare, 1932, 6, Pp. 288. (p 93-114)

as it is developed, in order that each generalization may be kept up-to-date. This, in the writer's mind, is an indispensable element in building generalizations in any field of human endeavor.

In the process of locating research studies, abstracting journals such as *Psychological Abstracts*, *Child Development Abstracts*, and *Biological Abstracts* were consulted as the first step. In the present study the issues published up to and including March, 1934 were examined, and an attempt was made to include in the research data upon which the generalizations are based the available studies published during 1933.

The basic data for all eleven sections included in this investigation and for each generalization within a given section are indicated in tabular form in Appendix I. The number of generalizations in each section is indicated by the data in the following tabulation:

Section	Total
Motor Development	13
Intellectual Development	31
Emotional Development	40
Social Development	36
Language Development	27
Physical Growth	27
Eating	40
Sleep	26
Elimination	28
Play	27
Sex Education	24
Total	319

The generalizations themselves will be presented later in this discussion.

Treatment of the Generalizations

In Part I of this monograph four special problems relative to generalizations were discussed: validity, level of generality, completeness, and classification. The method used in building generalizations described in the foregoing paragraphs recognizes the problem of validity. The most refined data available were assembled and the generalizations based upon them. No attempt was made in this study to test completeness or level of generality; these problems will be considered in other studies. The classification adopted here is essentially two-fold. The first six sections include motor development, intellectual development, emotional development, social development, language development, and physical growth. The last five sections represent essentially a classification in terms of situations or activities in which the generalizations are used by the parent. The five included are

guiding the child in activities relating to eating, sleep, elimination, play activities, and sex education.

IMPORTANCE JUDGMENTS

Criteria for Selecting Judges

The general method for securing judgments of the relative importance of generalizations and the theoretical bases for these judgments are described in Part I of this monograph. The important phases of any method of this type are the criteria followed in selecting the judges. The general criteria were also described in the first section of this monograph. It now remains to make these criteria more specific and to develop relatively objective measures to be used in their application. To do this it is necessary to consider again briefly the nature of the judgments to be made.

The object is to discover the importance of various generalizations in guiding the child toward optimum development. In order to formulate a conception of optimum development consistent with the best that is known and to guide the child intelligently, it would be helpful to the judge to have a broad background in child development and to be interested in the process of guidance. In order to distinguish intelligently between the functions of the family as compared with other social agencies in this process, training in the sociology of the family and an interest in the problem would be helpful. In making the judgments it is assumed that the technic or steps in the process of thinking are known and followed. This presupposes a knowledge of adult psychology. Finally, actual experience furnishes a partial check on the consequences of procedures and is therefore a desideratum.

From this analysis the following criteria were developed:

1. Only those persons were selected who had a broad knowledge of child development. In the actual application of this criterion a master's degree or its equivalent in child development was assumed to be sufficient.
2. Only those persons were selected who had at hand the best that is known concerning the functions of the family. College courses in sociology of the family or in parent education, extensive reading in this field, and an evident interest in the problem were required.
3. As indicated in the analysis, a knowledge of the process of thinking was involved in this problem. At least one year's work in adult psychology at the college level was assumed to be necessary.

4. Since actual experience may furnish a helpful check as to the consequences of various procedures, especially for the intelligent and observant parent, persons were selected who were assuming the responsibility for guiding children either as parents or as guardians or who were serving in some special capacity, such as a highly trained parent education worker concerned with the home and community environment of the child as well as his school environment.

5. A person interested in striving toward his conception of optimum development is likely to have made more extensive checks of his judgments than one who is not so interested. Only persons who were recognized by their associates as having an interest in guiding the child's development were, therefore, included.

These criteria were applied to all the judges. Many of them held a doctorate in child development, and all but one were parents. This one held a doctorate in parent education and had served as the guardian of a child. All of the judges were resident in the Middle West, but were located at three different educational institutions. The graduate training of the group was received in colleges throughout the country. One-third of the judges were fathers and two-thirds, mothers.

Procedure

The judges were given a list of generalizations and asked to record an importance rating for each generalization. Each judge was supplied with a copy of the following directions and was given as much time as he required:

Directions for the Judges

The following list of generalizations is divided into such sections as physical growth, mental development, emotional development, social development, etc. You are asked to rank each generalization on a three-point scale as to its importance to parents *for the satisfactory care and guidance of children*. You are to consider what is involved in the care and guidance of children and the part the parent plays in this function, and on the basis of this analysis to make the decision. Mark the generalizations which you consider highly important with *H*, those which you consider low in importance with *L*, and those of average importance with *Av*.

We wish to know the relative importance of the generalizations for each of three groups of parents: parents of preschool (young) children (children ranging in age from birth to approximately five years inclusive); parents of children of elementary school age (approximately five to eleven inclusive); and parents of high school children. In many cases there may be no differences in the importance of a generalization for the three groups, so that the importance rating will be the same for each group. On the other hand a generalization may be limited explicitly or inherently in application to a small age range and its importance, therefore, may vary.

We also wish to know the importance of the generalizations for fathers and mothers *separately*. On each page two columns are provided, one headed "Fathers," and the other "Mothers." Judges are asked to consider the usual type of family arrangement where the father assumes the major responsibility for the support of the group. Here again many generalizations may have the same importance for both fathers and mothers.

Judges are asked to disregard the order of the generalizations, the time required for teaching, or the amount of elaboration needed.

Parents are to be considered as living under the present social organization, but judges should keep in mind future development.

In some cases a generalization may be judged irrelevant to a given group of parents. It may also happen that a whole section may be judged irrelevant. Such cases may be indicated by *O*, meaning omit.

In tabulating the data preparatory to analysis *H* was given a value of 10, *Av* a value of 5, and *L* and *O* a value of zero. A generalization which was rated as *O* by 75 per cent or more of the judges was given no rating, signifying that it does not apply at the age level under consideration. The sum of the individual ratings is the raw importance score.

Reliability of Importance Judgments

The number of judges to be used in the final ratings depended upon the reliability of the judgments. Two sets of data to test reliability were secured. All of the generalizations in the eleven sections were rated by twelve judges. After an interval of about one month following the return of the material by the judge and without previous knowledge, eight of the original twelve were asked to render a second judgment for the generalizations included in five of the eleven sections chosen at random.

The reliabilities of the judgments as measured by the correlation of importance scores of half of the twelve judges with the other half and applying the Spearman-Brown prophecy formula are shown by the data in the following tabulation:

Age Level	Sec- tions	Relia- bility	Spearman- Brown Prophecy <i>r</i>
Preschool	11	.90	.95
Preschool	6	.87	.93
Preschool	5	.86	.92
Elementary School	11	.86	.92
Elementary School	6	.87	.93
Elementary School	5	.86	.92
High School	11	.79	.88
High School	6	.83	.91
High School	5	.77	.87

The importance scores used in this analysis were the importance scores for mothers. Preliminary analysis indicated few differences between the importance scores for mothers and those for fathers, and either set of data could be used with practically identical results.

The tabulation gives the correlations for all eleven sections taken together and for a group of six sections and a group of five sections at each age level. The group of six sections includes motor development, intellectual development, emotional development, social development, language development, and physical growth. The group of five includes the sections on eating, sleep, elimination, play, and sex education. The judges' names were listed in alphabetical order and alternate names chosen for the two groups. Inspection of the data shows that all of the correlations for the preschool and elementary levels are rather high. The correlations for the adolescent age level are somewhat lower, but not greatly so. The correlation for the eleven sections at the adolescent level is .79, which becomes .88 upon the application of the prophecy formula.

As indicated above, a second test of the reliabilitics of the judgments was made by resubmitting five sections chosen at random to eight judges for a second rating. The five sections included intellectual development, emotional development, social development, physical growth, and sex education. Results of the second ratings, which were obtained for two age levels, the preschool and the elementary school, are shown in the following tabulation:

Age Level	Correlation Between First and Second Judgments	Predicted Correlation (12 Judges)
Preschool	.88	.92
Elementary School	.88	.92

The correlations compare favorably with those obtained by the "split-half" method, as a comparison of this tabulation with that on p. 36 will show.

From these data it was concluded that twelve judges are sufficient to yield importance scores having a satisfactory reliability. The scores given subsequently in this study, therefore, are based upon the composite judgments of twelve observers.

IMPORTANCE SCORES FOR THE GENERALIZATIONS

Relative Importance of the Generalizations

The individual generalizations and their importance scores for fathers and for mothers at each of the three age levels are given in

the tabulations on pages 40-97. The basic data from which each generalization was derived are given in Appendix I.

The scores given in these tabulations are not the raw scores, but rather derived scores which are per cents of the total possible score. The following example will show how they were calculated: Let us suppose that a given generalization was marked *H* by six of the judges and *Av* by the remaining six. The raw score is $6 \times 10 + 6 \times 5$ or 90. This is $90/120$ or 75 per cent of the total possible score (12×10 or 120). This generalization would therefore receive a derived score of 75. Expressing importance scores in terms of per cent of the total possible score facilitates comparisons with other studies employing any number of judges.

Use of the Scores.—In understanding the significance of the data presented in the tabulations, it may be helpful to the reader to consider various ways in which the importance scores may be used. In the determination of needs of parents, for example, if needs are defined as the differences between what is involved in intelligent guidance and what the learner already has available, the process as far as the intellectual factors in behavior are concerned would be somewhat as follows: The generalizations high in the scale of importance may be selected and a study made of the extent to which these are understood by the learner to the point where they function in his behavior. (The tabulations furnish the necessary data as to relative importance.) Again, suppose the object is to design learning programs. The program, especially the reading materials, may be examined to determine whether the generalizations involved in intelligent guidance are included. Or suppose the object is one step still farther back of the designing of learning programs and involves the preparation of reading materials for parents. The importance scores should furnish a highly useful guide here also. The author can check his product with the most important generalizations to see whether he has included what is involved in intelligent guidance.

Another example of the uses of importance scores is found in studies of the effectiveness of learning programs. From the standpoint of the intellectual aspects of behavior, the problem in such studies is essentially to determine the extent to which an understanding of the generalizations high in the scale of importance has been developed. Data of the type presented here are essential to such studies.

Comparison of Importance Scores for Fathers and Mothers

One of the questions presented at the outset in the analysis of the problem of this investigation relates to the differences between the importance scores for fathers and those for mothers. Did the judges recognize a difference in the generalizations needed by mothers and by fathers? An analysis of the data showed no generalization receiving a higher score for fathers. The proportion of generalizations in which the composite ratings for mothers were the greater is indicated in the following tabulation:

Section	Preschool	Level Elementary School	High School
Motor Development	00	.00	.00
Intellectual Development	00	.00	00
Emotional Development	00	00	.00
Social Development	00	00	00
Language Development	00	00	00
Physical Growth	08	00	00
Eating	30	.06	04
Sleep	12	12	00
Elimination	64	.09	.00
Play	.11	07	00
Sex Education	00	00	00

In compiling the data for this tabulation, it was assumed that only differences of three scale steps or more should be included. The reasons for this are as follows: The final importance score of a generalization was based on the sum of the scores given by each of the judges. This sum was expressed as per cent of the total possible score. The possible scores that an individual judge could assign a generalization were three: 0 for *L*, 5 for *Av*, and 10 for *H*. Hence, the sum of the judgments was always a multiple of five. The derived scores (using 120 as the total possible score) increased or decreased, therefore, by steps of 4.167 points or multiples thereof. Using a difference of three scale steps (12.50) meant that at least two judges indicated a difference in the importance between mothers and fathers. If less than three scale steps were used, the difference could be the result of one individual's judgment.

The proportion of generalizations differing by three scale steps or more in importance for mothers over fathers is indicated by the data in the tabulation above. This is to be read as follows: Of the generalizations relating to motor, intellectual, emotional, social, and language development, none were judged more important for mothers than for fathers. Of the generalizations relating to physical

MOTOR DEVELOPMENT

Generalization

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	46	46	0	0		
	50	54				
	71	71	50	50	4	4
	54	58	0	0		
	42	42				

Motor Control in Newborns

A newborn baby is able to execute a variety of movements, such as turning the head, moving his arms and legs, clinging to a rod, and others. They foreshadow his developing motor control. Activity is much greater during waking than during sleep.

Motor Development of Arms and Hands; Grasping

1. Arm and hand control develops during the second to fourth months, although individual observations indicate it to be present on the fifteenth day.

2. Grasping is an art achieved during the first nine months of life, it progresses from the involuntary reflex grasp of the newborn baby to the grasping with the whole hand, until its final development is reached in the pincer technique employed by a nine-month-old child when picking up a pin.

Development of Handedness and Its Relation to Speech

Handedness is in general established by the end of the first year, although great individual variability exists in this respect. The origin of handedness has so far not been ascertained. It is claimed to be due to environment or to an inherent structure. There is disagreement as to the relation of handedness to speech. There is some correspondence of eye, hand, and foot preference in human subjects.

Development of Motor Control of Eyes

Voluntary eye control as well as clear and distinct vision at greater distances is a delicate operation not accomplished by the average child until from four to six months of age.

Development of Motor Control of Head

Stiffening of the spine as well as slight motor control of the head are accomplishments preparatory to walking. They have been observed in very young babies six weeks of age or less.

Walking

Walking, which is the essence of all motor coordination acquired by a newborn baby during his first year of life, reaches a state of perfection during the second year. There are many causes of delayed development in walking.

92

Effect of Maturation and Practice on the Development of Motor Control

It is still a debatable question whether motor skills in the early years may be improved by practice or whether noticeable improvement is the result of maturation.

92

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Relation of Mentality to Development of Motor Control

There is evidence to indicate a correlation between mental development and motor ability in a young child. In older children outstanding differences in motor ability between superior and average intellectual groups have not been found

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12

12

12

12

12

12

12

Development of Motor Control Through Spontaneous Play

A baby's spontaneous movements, as well as his attempts at crawling, climbing, etc., contribute to an awareness of his body, which in turn helps him to achieve motor control

75

79

0

0

0

0

0

0

0

0

0

Incentives for Motor Development

Opportunity for exploration with the baby is an important incentive for the achievement of motor control

92

Development of Special Motor Skills

Writing and drawing may be looked upon as skills; these, however, are limited by the degree of motor control achieved.

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Relation of Parental and Adult Attitudes Toward the Motor Development of a Child

A parent who interferes with a child's attempts at independence, as far as his motor development is concerned, by limiting the child's environment may be confronted by a retarded development in this respect, the effect of such treatment may show itself also in other directions.

100

100

75

75

75

75

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75

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Reliability of Motor Tests

A number of tests which are used for the measurement of existing motor ability among children at various age levels have proved to be reliable instruments for the measurement of such ability.

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INTELLECTUAL DEVELOPMENT

Generalization

Intellectual Growth in Infancy

At birth the normal human infant is capable of performing many movements. It has the capacity for building new movements, inhibiting movements, and perfecting movements. This capacity for learning makes possible complex development. Newborn infants react to intensity changes in light. They show more reaction to high-pitched than to low-pitched sounds. The reaction also varies with intensity of sound. They react to strong odors, but it is not apparent whether this is olfactory discrimination. Responses to taste substances have been observed. Conditioning of responses has been reported in infants only a few days old, but the data are not conclusive.

Effect of Heredity and General Environment on Intellectual Growth

Evidence regarding the effect of heredity on intellectual growth is contradictory and inconclusive. Inheritance probably determines the upper limits of an individual's range of ability, but it has not been proven that intellectual traits follow the Mendelian laws of heredity. There is some evidence that a disturbed endocrine balance may account for some of the intellectual traits which have been attributed to heredity.

The child's general environment has been found to affect his intellectual growth. The factors in an environment which stimulate growth are not known with certainty but probably include the attitudes of associates as well as material surroundings.

Relation of Socio-Economic Level to Intelligence

The results of research tend to show that the intelligence test scores of preschool and school children correlate significantly with the occupational classification of their fathers. The correlations are not high and there are large individual differences.

Relation of Sensory Experience to Intellectual Growth

An opportunity to enjoy a wide variety of sensory experiences contributes to the child's early intellectual development and experiences. A variety of materials is suggested which may be used to give the child this enriched experience.

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	75	75	0	0		
	79	79	75	75	58	58
	29	29	37	37	25	25
	100	100	62	62		

Influence of Preschool Attendance on Intellectual Growth

Recent studies have shown that children in attendance at preschools show significant gain in IQ over children who are not in school.

67 67

Correlation of Physical and Mental Growth

The correlation between physical and intellectual growth is positive but very low. Height and weight have a positive but very low correlation with intelligence. Children with superior intellect are in general not inferior in physical size and strength to average children. Children who are low in grade placement for their age tend to be less developed physically than those who are advanced. Children low in intelligence learn to walk later than normal children. While these statements are true for groups, they do not hold for individuals in the group.

58 58 42 42 17 17

Effect of Nursery School Attendance on Habits Related to Routine

The evidence available indicates that preschool attendance has a beneficial effect on the routine habits of children.

75 75

Intelligence Tests: Their Description, History, Use, Calculation and Interpretation of the IQ

1. There are many types of psychological tests. Examples are: intelligence tests, achievement tests, tests of emotional reactions, and aptitude tests. Intelligence tests are often referred to as psychological tests.

33 33 37 37 8 8

2. History and description of intelligence tests includes, a brief description of the Binet-Simon Scale, the Stanford Revision, the Kuhlman Revision, Gesell's series, the Stutzman series, and the Goodenough drawing test. Group tests are mentioned.

33 33 42 42 8 8

3. As a precaution in giving tests, results should be accepted only from trained examiners.

62 62 67 67 33 33

4. In calculation of the IQ, the tests are so constructed that the results may be expressed in terms of intellectual age

29 29 33 33 8 8

$$IQ = \frac{M.A.}{C.A.} \times 100$$

5. In interpreting results of intelligence tests, the test gives us one measure of the child's development. Guidance of the child requires knowledge of many other phases of growth as well as of factors that brought about this development.

71 71 71 71 54 54

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	21	21	21	21	8	8
	50	50	50	50	25	25
	37	37	37	37	37	37
	79	79	62	62	29	29
	92	96	92	92	87	87
	67	67	71	71	58	58
	87	87	79	79	62	62

Generalization

Reliability of Various Mental Tests

The reported reliability of various mental tests are included in this unit. Tests tend to show high reliability, but many tests have not been equated to each other.

Constancy of IQ

It does not appear possible except within a wide range to predict future intellectual growth from the present measure of the IQ. Tests show considerable variation, and extensive changes in the environment may become operative.

Sex Differences in Intellectual Growth

Sex differences which have been found in the study of intellectual growth have not been significant.

Relation of Language Development to Intellectual Growth

Language is a valuable mechanism for aiding intellectual growth, since through it the child may more readily communicate with others. Language also furnishes abstract symbols to aid reasoning and imagination.

Relation of Reading to Intellectual Growth

Reading provides a means for readily extending the child's experiences. It may assist in vocabulary and other forms of intellectual development. Types of reading suitable for the individual child are discussed in the section on reading.

Relation of Intelligence to Social and Emotional Development

Intelligence is one factor in emotional and social development, and all three influence the individual's achievement. The social and emotional development of gifted children is equal to or above that of children in general.

Play as a Factor in Intellectual Growth

Constructive play is a means of developing the child intellectually. Play is discussed more fully in a special section.

Intellectual Growth Curve

The form of the mental growth curve is not known. Evidence from studies using equal scale units is contradictory. The determination of the age of cessation in mental growth awaits the development of more adequate tests at the higher levels. The evidence for the effect of pubescence upon the intellectual growth curve is inconclusive.

Range and Classification in Intelligence

The variations in intelligence are great. Its distribution is thought to follow a normal curve, with as many individuals at the high end as at the low end. Arbitrary classifications, varying according to purpose, are included here. The experimental evidence tends to show an increase in variability up through adolescence, but the evidence is not conclusive.

Attention as a Factor in Intellectual Development

Attention is a fundamental factor in intellectual development. It may vary in type and intensity. Suggestions are given for securing the child's attention and for teaching him negative adaptation.

Memory as a Factor in Intellectual Development

Memory is one component of mental growth. Methods for its development are included here.

Curiosity as a Factor in Intellectual Development

Curiosity is a factor in intellectual growth. Lack of curiosity signifies either poor intellectual equipment in the child or careless use of opportunities for teaching the child.

Relation of Reasoning to Intellectual Development

It is difficult to state how early the ability to solve a problem appears. It varies somewhat with the definition of the problem solving. Reasoning of a rudimentary sort is observed in babyhood. Certain stages in the development of reasoning have been proposed but are not definitely established.

Influence of Bodily Conditions on Intellectual Growth

Fatigue, malnutrition, hunger, improper exercise, and nervousness may all act as deterrents to intellectual development.

The general health history of the gifted child tends to be equal to or above the average of unselected children.

42	42	42	42	37	37
42	42	46	46	29	29
71	71	75	75	50	50
46	46	62	62	54	54
87	87	87	87	71	71
54	54	75	75	75	75
87	92	87	87	75	75

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	79	79	75	75	67	67
	33	33	37	37	33	33
	75	75	79	79	58	58
	58	58	54	54	50	50
	8	8	12	12	8	8

Generalization

Relation of Discipline to Intellectual Growth

The purpose of parental discipline should be to guide the child in a way that will aid his continuous growth.

Correlation of Special Abilities and Interests With General Intelligence

1. There is disagreement among writers as to the correlation of special abilities (drawing, handwriting, music, etc.) and general intelligence.

2. Children of high IQ do not in general tend to be narrow or one-sided in their interests. They tend to read much more than an unselected group, but they also tend to report more hobbies, larger collections, and more social interests. There are large individual variations in interests.

Methods of Appraising Intellectual Growth in the Individual Child

To understand the intellectual growth of an individual child, a variety of approaches should be employed. These include a study of his physical condition, his heredity, and his environment as well as the results of psychological tests.

Cross Sections Showing Characteristic Development of Intellectual Traits at Different Ages

The material in this unit describes the characteristic intellectual traits of the old man, the average adult, the adolescent, the twelve-year-old, the ten-year-old, and the infant.

Relation of Size of Family and Birth Order to Intellectual Development

There tends to be an inverse relationship between IQ and size of family. In studies of birth order and intelligence, the results are inconclusive. Some report an increase in intelligence in the later-born, while others report no change.

EMOTIONAL DEVELOPMENT

Generalization

Inferiority: Causes, Manifestations, and Treatment

1 Inferiority as used here is a complex symptom of maladjustment in the child's personality. It may represent a natural defense of children against unpleasantness at home or at school. Any number of factors may be responsible for its development. The attitude of adults toward the child is a common factor. Parents and teachers may make a child feel inadequate by discussing his faults in his presence, by fostering his dependence upon them, by comparing him continually with a child of superior accomplishment, or by assuming a superior attitude in reference to his age, experience, or maturity. The scorn with which they view certain undesirable habits of the child, such as enuresis and masturbation, may serve to make him feel unimportant to himself. Friction in the child's home and poor adjustment to a physical handicap also are suggested as frequent causes for feelings of inferiority.

2. An inferiority complex may manifest itself in many different ways, such as an attitude of superiority, a retreat or withdrawal from the group, a feeling that others are unjust, an air of carelessness, feigned illness or incapacity to compete, daydreaming, delinquency, fear, self-negative tendency, suspicion, overaggressiveness, jealousy, and indifference. Any of these attitudes may be characteristic of the child with an inferiority complex.

3. Treatment of inferiority involves a discovery of the cause, its removal, or where this is impossible or unwise, the substitution of a desirable goal which is acceptable to the child. Generalizations on the nature of emotions, emotional growth, and methods for eliminating undesirable emotional responses suggest general factors regarding emotional development which are suggestive in planning a remedy for feelings of inferiority.

Jealousy: Meaning, Manifestations, and General Treatment

1. Jealousy is usually described as an "unpleasant feeling induced by any interference or attempt to thwart us in our effort to gain a loved object, either a person,

Preschool		Elementary School		High School	
Father	Mother	Father	Mother	Father	Mother
92	96	96	100	96	96
79	79	96	100	96	96
83	87	96	100	96	96

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	87	87	54	54	21	21
	92	92	75	75	29	29
	92	92	79	79	71	71
	92	92	96	96	79	79
	42	42	42	42	42	42

Generalization

power, possessions, or position. By the very nature of the emotion, it carries with it a lowering of self-valuation, followed by humiliation, concealment, and shame." Between the ages of one and five there is some evidence that most children experience some form of jealousy, and yet often, by unwise fostering, this emotion becomes exaggerated and makes normal development difficult.

2. Since jealousy is such a highly undesirable trait, adults should avoid attitudes and conduct which arouse jealousy in the child and foster those which will help eradicate it. Individual differences in children make it impossible to lay down rules which will bring the desired response. However, exhibiting unselfishness in sharing, rejoicing in the success and happiness of others, and striving for the good of the group may be used as corrective measures. Pertinent factors regarding the control of emotions are found in generalizations regarding the nature of emotions, emotional growth, methods for eliminating undesirable emotional responses, and expression of emotions in infancy.

Expression of Love From Adults. Importance and Possible Dangers in the Emotional Life of the Child

1. Affection is a factor in giving children the feeling of security which appears necessary for their optimum development. Indifference toward the child's need for affection may prove disastrous, but this lack appears to be a less insidious problem than the overdependence brought about by too great a display of affection from one individual.

2. There are certain recognized aberrations in the expression of impulses relating to love. The causes of these aberrations vary with the individual. Prevention is in general much easier than reeducation. Means used to prevent aberration will depend on the child, but a breadth of interest in people and both boy and girl companions are in themselves safeguards.

Negative Reactions of Children Toward Parents

Negative behavior of children toward their parents is found as well as the positive responses described in the unit on love. Various forms of anger, fear, hate, and jealousy may be present in the relation of the child to the parent.

An education of the positive responses is helpful to a well-adjusted relationship between parent and child. Supplementary material is found in generalizations dealing with the nature of the emotions and the expression of emotions in infancy.

Conflicts in Relation to the Child's Emotional Development

Conflicts are a part of the child's life and may have a place in the wholesome development of the child's emotions. It is only when conflicts which the child cannot resolve to his satisfaction occur too frequently that they become dangerous to the child's mental health.

Unnecessary conflicts may be avoided by diverting the child's attention or by attaching dissatisfaction to the entire situation. This assumes a measure of emotional development.

Possible Deleterious Emotional Effects of Unwise Teaching Concerning Religion and Death

It appears unwise to appeal to either anger or fear to force the religious development of the child. The aim of parents here as elsewhere should be the gradual development of emotional attitudes, because serious and painful mental conflicts may be aroused in the child by unwise religious instruction and by disturbing ideas of death or misinterpretation of burials.

Emotional Stability Its Attainment, and Possible Obstacles

1 Mood is the term used to express an individual's usual emotional outlook on life. Optimum emotional stability rests on a mood which is usually responsive to ordinary situations, neither overhappy nor yet depressed. Various complexes and uncontrolled emotions are foes of emotional integration.

2 The instability of adolescence has been possibly exaggerated. It may be an instability of economic status rather than a psychological instability.

3 Successful emotional integration may be difficult for a child of "mixed marriage," a twin, a half-orphan, or one who has some physical deformity.

Milder Emotions Pertinent Factors Regarding Shyness, Sympathy, and Astonishment

1 Shyness may have many causes. Attention to the child's hygienic regime and the displacement of fear by pleasant activities in connection with the object feared will tend to eliminate shyness.

2 Sympathy is probably a matter of imitation; the child repeats the actions of his associates.

54	54	75	75	75	75
62	62	71	71	62	62
42	42	50	50	54	54
17	17	37	37	92	92
54	54	79	79	83	83
92	92	50	50	54	54
42	42	25	25	21	21

	Preschool		Elementary School		High School
	Father	Mother	Father	Mother	Father
	17	17	8	8	12
	54	54	75	75	21
	54	54	75	75	21
	25	25	21	21	25
	75	75	75	75	71
	87	87	83	83	79

Generalization

3. Astonishment is often an indication of mental alertness

Quarreling: Stages of and Treatment for

1. Children may start quarreling as soon as they begin to play with other children. It has been reported that quarreling tends to increase from the ages of seven to ten years and gradually decreases from twelve years on to no quarrels in adolescence, but the data are not conclusive.
2. Often it is unnecessary for parents to do anything about quarreling unless the children fight to the point of hurting themselves. However, quarrels which arise from jealousy or from some other serious disturbance in the home should be remedied immediately by doing away with the cause. Change in routine may eliminate those causes arising from fatigue or poor physical condition. Separation is usually an effective treatment if it appears to the parent that quarreling is occupying too much of the child's time.

Methods of Studying Emotional Development in Children

A variety of methods have been used in the attempt to unravel the complexity of emotional responses. Psychologists have made progress in the study of emotions by studying children by means of controlled observations, rating scales, experimental situations, the questionnaire method, studies of facial expressions, clinical records, and the galvanometer.

The Nature of Emotions

1. Emotions are special responses to stimulus. This response may be a positive facilitating response or a negative antagonistic response. It differs from other stimuli in that it changes the ordinary adjusting of the individual in a marked fashion. Extreme emotions tend to be disintegrating, but in a mild degree they may be stimulating and improve the general functioning of the individual.
2. There is an interrelationship between the condition of the body and emotional response. Strong emotions may affect the breathing, circulation, digestion, muscular

strength, ductless glands, and elimination of the individual. The condition of the body in turn affects the susceptibility of the individual to emotional outbursts.

3. While there are many individual differences in emotional reactions, the more vivid emotions have come to have somewhat recognizable patterns of behavior which serve as earmarks by which they may be recognized.

4. One emotion may affect and influence another, and a strong emotion tends to inhibit a weaker one. Strong emotions tend to cause a deepening of attending impression but inhibit other stimuli from receiving attention.

Emotional Growth: General Description and Factors Promoting Growth

1. By common consent we recognize typical stages in the emotional development of the individual, although accurate measurement is not possible. The fleeting emotional interest of the child is changed into a complex organization with a lower emotional tone and a greater permanence in experience. This entails increasing ability to inhibit immediate response to stimuli, as well as a gradual change in perception of stimuli.

2. Infancy is not too early to lay the foundation for habits which will aid the emotional development of the individual.

3. Care should be taken to avoid excessive emotional stimulation, since this may retard ultimate development.

Methods for Eliminating Undesirable Emotional Responses

There are several general methods which may be used to eliminate undesirable emotional responses in children, namely, the conditioned reflex, disuse, substitution of goal, attaching dissatisfaction to the response, and sympathetic induction. The selection of method depends upon the emotion, the situation, and the personality of the child.

Expression of Emotions in Infancy

1. Little is known of the fundamental emotional patterns of infancy. The cry shows a wide variation in pitch, intensity, and continuity, but differentiations to a given stimulus have not been made. Watson lists the fundamental behavior patterns as love, anger, and rage. More recent experimental work has questioned the authenticity of this list.

2. Before the end of the first year it is possible to identify to some degree the emotions of children by facial expression and general behavior.

3. Experimental evidence has given some evidence that emotional reactions of various types may be conditioned in young infants.

42	42	42	42	50	50
75	75	75	75	71	71
58	58	58	58	67	67
92	92	50	50	42	42
92	92	75	75	42	42
96	96	83	83	58	58
71	71	33	37	12	12
42	42	8	8	12	12
71	71	33	37	12	12

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	46	46	54	54	12	12
	58	58	58	58	67	67
	96	96	83	83	58	58
	75	75	42	42	12	12
	83	83	87	87	62	62

Generalization

Incidence of Emotional Problems and Nervous Habits

Emotional problems and nervous habits have been found to be common to great numbers of children. A majority of the most frequent behavior problems in preschool children appear to be emotional ones. Some evidence is presented to show that they are not limited to any one sex, age, or mental level. They are found in all relations of the family and in all types of homes regardless of the father's birthplace, educational training, or occupation.

Relation of Attitudes to Emotional Development

Attitudes as used here refer to diffused aspects of emotions which by repetition form the behavior patterns of the individual. Certain attitudes such as cheerfulness in everyday living and courage in facing difficulties are highly important for optimum emotional development.

Influence of Adult Example on the Emotional Development of Children

Children tend to copy emotional patterns from adults with whom they come in contact. Parents probably rank first in their opportunity to influence the child. They should therefore exhibit the type of behavior they wish the child to develop.

Fear: Incidence, Causes, and Treatment

1. Fear may start in early infancy. It tends to affect the largest number of children from three to four years, to become more intense from five to seven years, and to decrease gradually to adolescence.

2. Two types of fears may be distinguished, the objective and the subjective. The fears of primitive man were probably largely self-protective against the hostile forces of nature, while many of the fears which appear most in civilization are those which have an intellectual character. An overdevelopment of either type has a disastrous influence upon the child's conduct and personality.

3. The causes of fear are legion and are modified by the age and experience of the individual. The commonest fears of one group of preschool children were dogs, doctors, storms, deep water, and darkness. Fear of social disapproval soon develops, and the adolescent may have his own particular fears.

4. The treatment of fear should be largely preventive, giving the child adequate preparation for situations which he is likely to meet. Methods for removing fears are the same as those for acquiring them, social contagion and conditioning. The quickest remedy for fear appears to be direct coordinated activity in relation to the object feared. Examples of undesirable treatment are ridicule, ignoring fears, using fear as a motivating factor for conduct, and forcing the child into a situation he fears

Anger: Frequency of Outbursts, Manifestations, Causes, and Treatment

1. Data available tend to indicate that anger reactions begin early in the life of the child, and their frequency reaches a height at about two years of age. The aim of parental training should be development of self-control within the child rather than the eradication of anger reactions. There are many manifestations of anger reactions in children. The commonest form is the temper tantrum, in which the child indulges in an uncontrolled outburst of kicking and screaming. Sulkiness, negativism, and sullenness are milder in form than the temper tantrum but more lasting in the nature of their reactions. Rage is an extreme form of the temper tantrum.

2. The first step in securing an adaptive response from children instead of an unadaptive emotional outburst is an effort to understand the cause of such undesirable behavior. Some frequent causes of anger are interference with the child's activities, failure of parents to control their own anger, the child's environment if it furnishes constant thwartings and irritation, the child's discovery that he can get what he wants by flying into a temper, the child's suffering from some physical irritation, an unstable nervous system which makes the child more susceptible to emotional outbursts, and attitudes of suspicion and jealousy.

3. The kind of treatment naturally depends upon the cause. It is well to remember that anger reactions follow the general laws of learning. Diverting attention may prevent these outbursts, but after the habit has once been formed dissatisfaction should be attached to the child's undesirable response. Further details are found in generalizations dealing with the nature of emotions, emotional growth, methods for eliminating undesirable emotional responses, and expression of emotions in infancy.

83 83 71 71 50 50

96 96 83 83 62 62

87 87 79 79 46 46

92 92 87 87 46 46

83 83 75 75 79 79

SOCIAL DEVELOPMENT

Generalization

Norms of Development

Norms of development, from earliest infancy through adolescence, are based partly on research and partly on ordinary observation of large numbers of children. These norms are concerned with such traits as appreciation of other persons, imagination, negativism, smiling, gregariousness, and use of social conventions.

Relative Importance to Social Development of Instinctive Behavior and Environment

In considering the relative importance of instinctive behavior and environment in social development, contributors indicate that environment is the more potent factor. Both research and judgment based on observation sustain this viewpoint.

Simple activity patterns such as crying, grasping, and the like are probably instinctive; the more complex are learned.

Imitation

Imitation is an influential factor in social development. It is highly modified through learning.

Importance of Adjustment to the Social Phases of Environment; Influence of Home and School on the Child's Adjustments

It is important that the child should learn to adjust to the social phases of his environment. The family has an extensive influence in teaching this adjustment to the child. School adjustments reflect home adjustments, but they also call for other types not learned at home.

Family life should be such as to mold the child to optimum social relations in the future. The father's part as well as the mother's influence is emphasized.

Importance of Emotions in Relation to Social Adjustment; Influence of Parents' Behavior Upon the Emotions of the Child

Preschool	Elementary School	High School		
			Father	Mother
Father	Father	Father	67	42
Mother	Mother	Mother	50	42
			50	50
			75	75
			83	83
			75	75
			62	62
			54	54
			92	92
			92	96
			79	79

Emotions may be socially conditioned. Some contributors indicate that parents should express their own emotions and thus teach their children frankness; other authors question this procedure. There is some doubt as to whether all emotions can be concealed. There seems to be agreement that some control is necessary. Emotions are sometimes aroused in children by such parental conduct as seeming partiality, conversation about the child in his presence, or having the child "show off."

Self-Regulation; Its Place in Social Adjustment

Self-regulation is important. It is developed through the learning process and extends to every phase of the child's activity. As the child grows older, there should be a gradual shift from outward to inward control.

Self-Reliance: Its Importance and Development

At birth children are dependent but should gradually acquire independence. Parents may help or hinder this separation or growth through attitudes and practices.

Teasing

Teasing is recognized by the reaction of the person teased; it involves a state of being vexed. Teasing should not be confused with such terms as "kidding," joking, and bullying. Teasing is an infantile method of attempting to make a social adjustment or to gain a sense of power. Nagging is similar to teasing but seems to include over-insistence and faultfinding.

Truthfulness; Distinction Between Untruthfulness and Imagination

Actual lying is conscious; imagination in very young children is responsible for unconscious lying, which is really not lying at all since the child in early years is incapable of discriminating between fact and fancy.

Incidence of Untruthfulness in Children

Although no research is available to indicate the extent to which children lie, it is probable that lying in young children is almost universal. Research indicates there is a trend toward higher degrees of honesty as the child progresses in school.

Causes and Treatment of Untruthfulness

The causes of untruthfulness listed by authors range from the most serious to the most trivial. Various types of lies are discussed. Treatment should be adapted to individual cases. The ultimate aim should be the building up of understanding and self-control.

71	71	67	67	50	50
75	75	83	83	71	71
100	100	100	100	92	92
54	54	62	62	50	50
96	96	42	42	8	8
79	79	37	37	12	12
79	79	87	87	75	75

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
Generalization						
Imagination; Desirable and Undesirable Forms						
Every age may present desirable and undesirable forms of imagination. The developing imagination may give an impetus to constructive and creative activities, desirable personality traits, and learning. When imagination leads to continuous daydreaming and fantastic actions, or when it encourages withdrawal from the group for its indulgence, then it becomes undesirable.	79	79	92	92	79	79
Development of the Imagination						
The child's imagination tends to increase up to four or five years of age. The parent should understand its development in order to interpret correctly the child's behavior, especially with reference to the very small child's so-called "lies."	92	92	37	37	12	12
Companionship. Its Importance in Developing Group Adjustment, Basis of Companionships						
Companionship is necessary for the social development of the child. It is suggested that the child have companions of his own age, at least of the same mental age. He tends to care little for adult companionship						
The test of a child's social adjustment is the way he reacts to the group. He should be able to hold his own with children of the same age level.	100	100	100	100	100	100
Companionships are based on a variety of factors, such as contacts in the school or neighborhood and similarities as to sex, mental ability, social and economic status, interests, and the like.						
Gangs and Clubs in Social Development						
Most children belong to a club or gang, usually after they are ten years of age. These contacts are valuable in teaching the child social adjustment. A balance in gregariousness is important. The control of parents should be indirect rather than direct	8	8	87	87	100	100

Stealing; Complications Involved in Teaching Standards of Judgment to a Very Young Child

On account of the home being a complex unit and many possessions being owned in common, the matter of teaching the child honesty is complicated

25 25 46 46 33 33

Stealing; Causes and Treatment

Causative factors are varied and often extremely complex. They differ in individual cases, necessitating individual treatment.

It is possible that the parent, as well as the child, may need to make some adjustments to remedy this fault of the child.

46 50 83 83 75 75

Parental Attitude Toward Stealing

Meeting the problem squarely and taking time to think clearly and unemotionally will reduce parental alarm if there is an incidence of theft by the child
Justice should be done the child in making reparation

62 62 92 92 92 92

Destructiveness; Causes and Treatment

Constructive and destructive impulses are related. Destructiveness in young children may be an indication of creative ability. Care should be exercised in curbing this activity until the parent is sure that it proceeds from wanton motives.

92 92 79 79 17 17

Truancy; Causes and Treatment

Curiosity, conflict, love of adventure, and a lack of play materials at home are the commonest causes of running away from school or home.

There appears to be less truancy than formerly. The difficulty is minimized by an appeal to children's interests in school and home.

50 50 79 79 75 75

Relation of Humor to Social Development

In social situations humor is often helpful in reducing tension and promoting easy and pleasant relationships.

75 75 92 92 92 92

Relation of Physical Cruelty to Curiosity

Curiosity is frequently responsible for acts of cruelty to animals and children. The young child, however, knows nothing about cruelty as such

Exposition and explanation of facts are desirable to "reform" the child's actions in these respects. Ridicule or scolding is not generally considered helpful.

67 67 54 54 12 12

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	92	92	46	46	21	21
	75	75	100	100	100	100
	75	75	92	92	96	96
	67	67	75	75	71	71
	71	75	79	79	75	75
	92	92	79	79	50	50

Generalization

Relation of Sensory Development and Experience to Social Development

To some extent, especially in the first years, social development is dependent upon sensory development. Therefore, the child should have opportunity for a rich and varied sensory experience from infancy on.

Relation of Physical Development to Social Development

The physical condition of the child influences strongly his social adjustment. A physical defect may affect his social relations. The child's ability and appearance influence the social responses that are made to him as well as his own attitudes toward the group.

Self-Confidence; Its Importance and Development

The degree of self-confidence exhibited by a person may indicate the basic adjustment of that individual to the group. It is possible to misinterpret an individual in this respect. The parents' trust in the child is an important factor in the development of self-confidence. Success and failure influence self-confidence.

Aggressiveness and Dominance

A certain degree of either of these qualities furthers the child's social adjustment. That type of aggressiveness or dominance which brings out the quality of leadership illustrates the acceptable forms of these traits. Extremes of either should be avoided.

Overstimulation

Social overstimulation is disadvantageous to the individual at all stages. The child is more easily overstimulated than the adult.

The danger of overstimulation may be partly avoided by supervision of games and contests.

Property Rights

The child should be taught early the difference between "mine" and "thine." He should also be taught to share. These ideas are the result of gradual learning.

Manners and Conventions: Relation of Home Attitudes to Children's Consideration of Others

Children often find it difficult to adjust to social mores and conventions. Example is one method of teaching conventions. Some instruction may help children, particularly older children, to meet varied social obligations and situations outside the home.

67 67 83 83 75 75

The Child's Position in the Family and the Size of the Family as Factors in Social Development

Every child has a problem of adjustment because of his position in the family. Such a problem should receive consideration. His position in the family affects his growth and behavior. The size of the family may have some relationship to the child's personality. Studies have not shown that "only" children differ greatly from children having siblings.

75 75 75 75 71 71

The Nursery School and Its Contribution to Social Development

The nursery school may be regarded as a stepping-stone between the home and the school proper. It is important in promoting early group adjustments. There is some evidence that social development is facilitated by nursery school environment

71 71 21 21 0 0

Relation of Intelligence to Social Development

The results of studies of the relation of intelligence to social development are conflicting.

8 8 8 8 4 4

Measurement of Behavior Traits

Many tests and other methods have been developed for measuring behavior traits. These methods are involved and the results secured are inadequate for large scale application.

4 4 8 8 4 4

Social Aspects of Smiling and Laughing

The first smile is reflexive in character and should probably not be interpreted as indicating pleasure. The true smile is seen about the second month.

25 25 0 0 0 0

Smiling and laughing are not correlates of physical condition. Children who respond with smiles have been reported to laugh less, and vice versa.

Integrated Personalities

A well-integrated personality is characterized by parallel development along mental, physical, emotional, and social lines.

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	75	75	92	92	92	92
	50	50	71	71	71	71

Generalization

The attitude of parents is an influential factor in integrating the child's personality. Added to this is the ability of the child to envisage his goal and to work toward it progressively.

Certain social characteristics seem to be positively correlated with a pleasing personality.

Introversion and Extroversion

The Marston scale classified children with reference to traits as introverts, extroverts, and ambiverts. If extroversion takes the form of extreme social activity, contacts may be encouraged with such interests as nature and the fine arts.

LANGUAGE DEVELOPMENT

Generalization

Stages in Speech Development

Crying represents the first stage in speech development. The baby's cries have no particular meaning, though they differ in quality and intensity.

Babbling precedes the child's crude attempts at words and helps him to form words. In his babble, there is infinite variety of sounds, giving him opportunity to exercise the speech mechanism and laying a foundation for his first real words.

The child utters sounds other than crying and babbling in response to environmental stimuli. Indicative gestures for needs or desires as well as imitative ones ("bye-bye") appear on the average toward the ninth month.

Speech As an Outgrowth of "Instinctive Tendencies"

Speech itself is not instinctive, but its roots lie in hereditary tendencies.

Language Development Other Than Vocabulary; Sex, Age Differences, Etc.

1. The course of speech development is traced from a reflex cry to the complicated sentence. The age for the normal child to use words intelligently is around fifteen months. Slight sex differences in the earliest appearance of speech are indicated by studies (in favor of girls); of grammatical elements, nouns predominate in the earliest ages; verbs increase with chronological age. The other categories appear later.

2. Sentences, difficult to recognize at first, develop into more or less integrated form as the child gains in mental ability. A sign of linguistic progress in childhood is increasing length of sentence.

Size and Richness of Vocabulary at Different Age Levels; Relation to Intelligence, Sex Differences, Etc.

1. As the child grows his vocabulary increases in size and richness. vocabularies will differ with varying degrees of mentality. There are certain sex differences in spoken vocabulary and in the appearance of parts of speech, but these variations are only slight. The difference is probably greater between individual vocabularies.

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	62	62				
	25	29				
	50	50				
	58	58	4	4		
	58	58	33	33	0	0

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
2 The child's comprehension vocabulary is larger than his speaking vocabulary.						
Importance of Using Correct Speech and Language, Clear Pronunciation, Etc.						
Baby talk is disapproved; clear, slow pronunciation is recommended as an aid to the baby's growth in language. It is difficult to know what to advise in connection with slang. In a cultured environment there may be mild use of apt phrases.						
Incentives to Use Speech						
Gestures should in general be disregarded, for the child should be encouraged to ask for what he wants or needs. Children may be retarded in speech development through faults in parental training, environment, and lack of stimulating events.	92	92	8	8	0	0
The Effect of Ridicule, Nagging, and Constant Correcting Upon Speech Development						
Ridicule, nagging, and constant correction should not be used in the child's training. The child may be discouraged in making an effort to talk, and in addition psychological difficulties are likely to develop.	100	100	67	67	17	17
Effect of Conversation with Child						
Conversation with a child appears to aid his progress in language. Training the child in language by conversation should be begun in babyhood. Subjects may be chosen from the wide variety of child interests.	92	92	50	50	12	12
Imitation As an Aid in Speech Development						
The child's imitative ability enables him to progress in speech development, adding to his vocabulary and acquiring fluency. This characteristic may be seized upon by the parent and used in training.	75	75	46	46	17	17
Relation of Unhealthy Emotional Attitude and of Negativism to Speech Development						
A definite emotional conflict may result in a condition of mutism. The persistent negativistic attitude which expresses itself in refusal to speak needs close attention and a study of home conditions. Low mental ability may not be inferred from retarded speech development without careful and comprehensive study.	71	71	25	25	8	8

Most Frequently Used Words in the English Language

Parents are referred to Thorndike's *The Teacher's Handbook*, where 10,000 words are classified according to their frequency of use in the language

17 17 17 17 0 0

Methods of Recording a Vocabulary

Various methods are used. the notebook (home record) and various standardized tests.

21 29 17 17 0 0

Relation of Illness, Deafness, Etc to Speech Development

Physical disorders interfere with the child's speech developments It is generally suggested that if the child does not talk by the end of the second year, he should have a thorough examination for possible defects.

87 87 25 25

Speech Defects Relative to Social Maladjustment

Speech defects may arise from maladjustment socially, which in turn may be emotionally conditioned. Psychological and physical examinations are recommended.

75 75 62 62 29 29

Letter Sound Substitution and Omission

Peculiarities of speech are caused by emotional conflicts in the majority of cases, but malformation of the teeth or palatal arch may possibly be responsible

79 79 54 54 25 25

Stuttering

This is a break in the rhythm of speech caused by the blocking or inhibiting of muscle coordination and is quite common in young children. The emotional life of the stuturer should be diagnosed; training should be along lines of physical and mental hygiene and training in muscle coordination. Situations of a social nature should be encouraged, the child should be properly motivated, and parents should give the minimum amount of attention to the matter. The relation of handedness to speech is discussed in motor development.

83 83 71 71 46 46

The Child's Questions; Their Significance in Language Development

Between three and six years the child's questions are seemingly limitless They are important aids to learning about the world outside and to acquiring various sorts of information The child's purpose should be considered before making an answer. The form of the question may be indicative of a child's language development

92 96 50 50 25 25

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	83	83	33	33		
	92	96	50	50	25	25
	21	21	75	75	42	42
	50	50	37	37	12	12
	33	33	33	33	21	21

Generalization

Pictures in Relation to Language Development

Picture books and the accompanying naming of objects are an aid in language development. Recognition of words, such as zebra, elephant, is not the all important objective. The quality and accuracy of the picture book should also be taken into consideration.

Stories in Relation to Language Development

Stories may be an aid to speech and to the acquisition of vocabulary. The first stories should be those of action, recounting familiar experiences.

Dramatization and Language Development

Dramatization, especially if the children write the play themselves, furthers correct vocabulary; the social factor enters and brings new words.

The Function of Language in the Child's Life

Language enables the child both to express his personality and to make social contacts. Studies show that in the earliest years the child's speech tends to be egocentric, and more so in free play than in talking with adults. As age increases, egocentricity decreases and speech becomes socialized. Piaget places "collective monolog",—where conversation begins—at between three and four to five years of age. This investigator claims that the higher forms of conversation, argument, and abstraction do not appear, on the average, before the age of five years.

Language Development in Relation to Social Status and Environment

Social status is closely linked with language development; this observation is supported by numerous studies. The findings show a definite tendency toward superior language development in the higher occupational levels. It appears that twins talk later than other children.

Rate of Word Learning

The rate of word learning fluctuates; it may not show steady and continuous progress.

PHYSICAL GROWTH

Generalization

The Relation of the Endocrine Glands to Physical Growth

The activities of the endocrine glands are closely related in complex ways. Their significance is only partially known, but it appears that a balanced functioning of the whole group is necessary for normal growth.

Relation of Nutrition to Physical Growth

Malnutrition in the child has far-reaching consequences. Optimum nutrition is a concomitant of optimum physical development. What constitutes optimum nutritional status and optimum diet is discussed in the section on nutrition.*

Influence of Heredity Upon Physical Development

A few physical traits as color of hair and eyes follow the general laws of inheritance. Research has shown, however, that the germ cell may be changed by environment; hence, even physical traits cannot be predicted with certainty. Environment may influence the course of development.

Influence of Environment Upon Physical Development

Factors intrinsic to the germ cell are commonly grouped under the general term environment, such factors may modify the course of development. The kind and amount of food, for example, may have a definite effect. Discussion of specific factors will be found in other sections or units.

Posture. Identification of Good or Poor Form, and Influence on Physical Development

Certain types of posture have been assumed to be detrimental to good physical development. There is a difference of opinion regarding the correct posture for an individual, but the tendency is away from uniform postures for children. Since physical environment affects posture, it should be given early and continued attention.

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	46	46	50	50	37	37
	92	100	96	100	67	75
	62	62	50	50	37	37
	96	96	92	92	62	71
	71	71	83	87	83	83

Physical Development of the Newborn

At birth the human infant is relatively immature, its skeletal structure, organs, and tissues are unprepared to assume adult functions. In comparison with the proportions of the adult, the head is large and the arms, legs, and neck are short. This unit contains factual information regarding the average size, weight, and development of different parts of the body of the newborn.

71 71

Height and Weight in Relation to Age, Sex, and Race

This unit includes various measurements of children of different age, sex, and race. It discusses the average weight and height of children of different ages and sex. Emphasis is placed on the range rather than the average of the group in considering the individual's development. Other measures are necessary to appraise the physical status of the child.

67 67 54 54 42 42

Variations in Growth: Body Types, Changes in Bodily Proportions During Growth, and Cycles of Body Growth

1. Body types and changes in bodily proportions account for some of the wide variations found in the growth of children.
2. There is some evidence to indicate the existence of a daily cycle and of a seasonal variation in growth.

46 46 37 37 25 25

46 46 37 37 25 25

Bone Growth, Including Sex Differences

The number of bony masses varies with age. Because of the variation in rate at which bones harden, they have been proposed as an index of physical development. X-ray photographs of children's bones have shown definite sex differences and a possible correlation with mental development. Attention should be given to the position of the infant, as remaining in one position too long may cause malformation of the bones. Influence of diet on bone growth is discussed in nutrition.*

46 58 17 17

Growth Other Than Bone and Muscle

Growth of the various organs of the body and of the nervous system does not proceed at a uniform rate. The lack of uniformity in the growth between such parts, as the size of heart and the blood vessels and the area of skin in relation to weight, demands special precautions in the physical régime of the child. This unit contains the data relating to the rate at which the various parts of the body develop.

37 37 37 37 17 17

*The section on nutrition is not included in this study, but is one of the sections in process of development.

Generalization	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
<p>Relation of Exercise to Muscle Growth and Motor Control</p> <p>Exercise is important in the development of muscle and motor control. The development of motor control is discussed in the section on motor development. The problem of optimum exercise for muscular control is included here</p> <p>Influence of Daily Régime on Physical Development</p> <p>Essentials for developing a sturdy constitution include, in addition to fresh air and sunshine, proper eating, sleeping, and elimination. The relation of these to optimum physical growth is discussed in their respective sections.</p> <p>Dentition</p> <p>1. Teeth are a special bone development and need the same minerals and vitamins as do other bones for proper development. Calcification begins six months before birth; hence, consideration should be given to the expectant mother's diet. When the teeth start to erupt, something hard to bite on such as zwieback or dry toast may relieve pain if present. Other disturbances should be interpreted with care.</p> <p>2. The eruption of teeth takes place earlier with girls than with boys, and also presents individual variations. The relation of dentition to intelligence is not definitely established.</p> <p>3. Care of the teeth after eruption is discussed in the section on physical hygiene.*</p> <p>Disease Prevention, Innoculation, and Immunization</p> <p>Disease prevention is of immense importance to physical growth. Immunization from scarlet fever, diphtheria, and smallpox may be secured by inoculation. Details of immunization and other methods of disease prevention are discussed in the section on physical hygiene.*</p> <p>Importance of Early Discovery of Physical Defects</p> <p>Physical defects such as flat feet, diseased tonsils, enlarged adenoid growths, and nearsightedness should be discovered early and corrected, since they tend to retard proper physical development. These are usually discovered in the annual physical examination</p>	75	79	71	71	58	58
	87	92	79	87	71	71
	83	92	33	37	17	21
	46	54	12	12		
	100	100	96	96	75	75
	100	100	96	96	71	71

The School's Responsibility for the Physical Development of the Child

During attendance at school, consideration of the pupil's health should include (1) regular physical examinations, (2) a cumulative physical development record, (3) optimum seating arrangements, (4) optimum distribution of time for exercise and study, and (5) sanitary conditions.

Pubertal Changes

1. There is no fixed age at which characteristic signs of physical maturity appear, but in general girls mature earlier than boys.
2. The changes at puberty may include, in addition to the maturing of the reproductive organs, an increase in height, weight, and strength, changes in bodily proportions, and the appearance of the secondary sexual characteristics. There is some doubt as to the relative rate of growth at puberty.

Parental Motives and Methods of Studying Physical Growth

A systematic study of the physical growth of a child will furnish parents with an index to his physical progress. A record book may be used to keep important measurements, notes on food changes, accounts of illness, etc.

Need of Standardized Techniques in Measuring Growth

International standardized techniques for measuring growth should be adopted so that scientific measurement may be advanced more rapidly.

Cell Growth and Development of the Embryo

This unit contains a short account of the embryonic growth which starts with the fertilization of the female cell and continues by cell division until a group of cells assume the shape of a hollow globe. This globe collapses and an outer, inner, and middle layer are differentiated. Each layer contributes specific portions of the growing organism.

Fetal Growth

This period of development is generally considered to begin with the third month. During this month the fetus grows to approximately three ounces in weight and four inches in length. During the remainder of the nine months not only are the bones, muscles, teeth, and skin developed, but sensory and motor reactions are also developing.

*The section on physical hygiene is not included in this study, but is one of the sections in process of development.

50	50	96	96	79	79
58	62	42	42	42	42
33	33	29	29	21	21
42	42				
46	46				

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	71	71	62	62	71	71
	75	79	29	29	0	0
	42	46	21	21	12	17
	62	75	25	29	17	21

Generalization

Reproductive Organs

The names and functions of the male and female sex organs are included in this unit. Hygiene is discussed in the section on sex education.

Pregnancy Changes and Hygiene of Pregnancy

1. There are a number of "signs of pregnancy," but they are not always reliable, and diagnosis should be made by a physician. The pregnant mother should be under the care of a competent physician who will make at regular intervals tests of kidney functioning, etc. This is an application of the general principle of seeking guidance when one is faced with a normal condition with potentialities of danger.

2. During pregnancy the uterus is converted from a small organ to a sac on the average about 500 times greater in volume. Changes also take place in the breasts. The exchange of nourishment and waste products between mother and child takes place through the placenta.

3. Personal hygiene of pregnancy includes attention to cleanliness, exercise, over-fatigue, diet, and clothing. Adequacy of diet is important since essential food materials not supplied in diet will be taken from the body of the mother. A fairly liberal supply of the elements necessary for all growth, such as minerals and vitamins, is needed.

EATING

Generalization

Importance of Activities Related to Eating

Eating is one of the first habits to demand attention. Since much of the child's future welfare—mental, physical, and social—depends upon right habits in regard to food and eating, it is wise to take account of bad habits early and to make plans for their redirection. A careful and constructive study of eating difficulties may prevent inharmonious parent-child relationships, for it is often dissention over meals which upsets emotional relationships between the two.

Difference Between Hunger and Appetite

A distinction is sometimes made between hunger and appetite, though the terms are frequently used synonymously. Hunger is a painful sensation in the abdomen due to lack of food; it causes stomach contractions and brings into consciousness the need of nourishment. Appetite, on the other hand, is a desire for gratification and is learned. There is some disagreement as to the relative importance played by the appetite in the child and in the adult.

Stages in Learning to Eat

Terms used to characterize the different stages in eating are: (1) infantile, the stage characterized by sucking and terminated by weaning. (2) intermediate, the period of enlarged diet, ending at two years, and (3) modified adult, the diet of an adult, minus certain foods.

Regularity of Mealtime

Regularity of meal hour is of fundamental importance. It promotes development and acts as a stabilizer in emotional expression. Both parent and child will profit from a strict observance of regularity in the eating situation.

The rhythmic character of the desire for food is an aid in establishing and maintaining regular habits of eating.

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	79	87	50	58		
	50	54			50	50
	21	29				
	75	83	67	71		

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	75	75	75	75	50	50
	33	42				
	75	92	8	12		
	50	62	54	58	29	29

Generalization

Indexes of Nutritional Status

Height and weight tables for a given age may be used to advantage, but not to the exclusion of factors such as rate of growth, habitus of the child, racial heritage, and heredity. Individual differences are important considerations in determining the nutritional status of a child.

Capacities of the Newborn as Related to Eating

Studies tend to indicate that the sucking response is present at birth. Newborn infants have also been observed to react to differences in taste. In general the infant reacts only to strong odors and flavors, and it is not known whether this is due to pain or to olfactory discrimination.

Introduction of New Foods and New Implements

From both psychological and health standpoints it is important that new foods and new implements should be introduced early and that the child should accustom himself especially to bottle feeding and to spoon feeding as a gradual adjustment to the weaning process. Similar considerations should accustom the child to transitions in diet at the various stages.

When introducing new foods, only a small portion—one to two teaspoons—should be offered at the first attempt. After the child is accustomed to the new food, the amount may be increased gradually. Various factors enter into a successful attempt to introduce the child to new foods, such as attitude of parent, strong odors, different textures, etc.

There is some disagreement on the time for introduction of specific items of diet (see section on nutrition).

Self-Selection of Diet

Contributors do not agree upon self-selection of diet by the child or upon the age at which the child may be allowed freedom of choice.

Self-Feeding Time of Starting, Norms of Accomplishment

Self-dependence through self-feeding may be encouraged early—probably as soon as the child becomes interested in feeding himself. In eating there should be a minimum of parental assistance. Spilling should not cause concern at the sacrifice of a self-reliant and ambitious baby.

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Regurgitation of Food by Infant

Little significance is to be attached to the expulsion of food by infants. It does not indicate a dislike for food, but seems to be a normal reaction. If regurgitation becomes a habit, it is best to consult a physician. Regurgitation tends to decrease as the child grows older.

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Length of Time for Eating

The length of time generally given for a meal ranges from twenty to thirty minutes for children. A baby one to two months old may eat a meal in five or ten minutes, but usually he should be allowed fifteen to twenty minutes.

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Coming to the Family Table

Contributors agree that the child should eat only the foods that are suitable for him and that he should not be unduly excited or distracted by the situation. There is a difference of opinion as to when this stage is reached. The estimates vary all the way from the baby to children eight or nine years of age.

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Effect of Emotion on the Digestive System

Emotions react strongly on the digestive system, negatively it unpleasant and positively if pleasant. It is helpful to avoid situations which might arouse unpleasant emotions in the child, before meals as well as during the mealtime and afterwards. Nagging, scolding, and unpleasant topics of conversation had best be dispensed with at meal-times. Since emotions may be transferred, parents should be careful not to betray their own emotions to the child.

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92

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Not only has the aesthetic appeal of the food a marked effect on the appetite, but the environment influences it. On this account the room, furniture, and appointments should be as pleasing and attractive as possible. The baby should have a quiet, restful room, with no distracting elements.

Food Refusals As an Avenue of Attention

It is wise to refrain from talking before the child about his failure to eat. Such discussion gives him the attention which he enjoys.

92

96

67

67

25

25

	Preschool	Elementary School	High School
Father		Father	Father
Mother		Mother	Mother

Generalization

Urging Child to Eat

The majority of contributors agree that it is unwise to overurge a child to eat or to force food upon him. Important considerations to be taken into account are individual differences in requirements for food, danger of upsetting parent-child relationships, and the possibility of arousing negativism toward certain foods. Advising parents against urging child to eat is not thought to be harmful to the child's nutrition provided prescribed prophylactic measures are taken.

Use of Praise and Other Types of Rewards in Training in Habits of Eating

Rewards as such are not favored, but encouragement does no harm and may do some good if not overdone.

Effect on Parents of Good Refusals

A child's indifference to food has a marked effect on parents, as a poor appetite is associated with poor health. Likewise, many mothers have been made anxious by the attempts to standardize the weight and height of children.

Redirecting Child's Attempts to Gain Attention in the Eating Situation

The main points brought out by the contributors are: Pay attention to the child if he eats well. Say nothing about poor eating. Help the child to understand that if he does not eat he is the loser. Let him eat in a room alone with a trained adult. Try to understand the motive back of the child's desire to gain attention. Exhibit a matter-of-fact attitude toward him.

Mixing Foods

Observers are about evenly divided on the matter of mixture of foods. Disliked vegetable or a new food may be mixed with accustomed food and so be gradually introduced. On the other hand, certain researches show a tendency for mixtures to stand high in the scale of disliked foods

75	75	54	54	21	21
62	67	46	46	12	12
75	79	54	58	29	29
79	92	42	46		
37	62	8	12		

Size of Servings

It is better to serve small portions of food; the sight of too much food tends to decrease the appetite, just as the sight of too little stimulates it.

Importance of a Variety of Food

Variety in foods is conducive to good appetite and to good eating habits. However, adult standards of variety should not apply to a child's diet.

To secure variety, substitutions may be made for foods frequently served, or those usually served may be prepared and served in different forms. Sometimes combinations will solve the problem of variety.

Undesirability of Highly Spiced or Overseasoned Foods

It is desirable to keep the child's diet simple, highly spiced or highly flavored adult foods are not favored

Relation of Fresh Air, Sunlight, Exercise, and Rest to Eating Habits

Fresh air, sunlight, exercise, and rest are helpful in maintaining as well as in establishing good eating habits. There is some difference of opinion as to the influence of outdoor exercise on eating.

Eating Between Meals

It is agreed that in general a child with a poor appetite should not eat between meals, but that a child with a normal, healthy appetite might be allowed to do so, though there is disagreement on this point

Feeding Problems - Types and Incidence

Feeding problems in children are general, but difficulties of this nature seem to be cause the most difficulty. It is accompanied by refusal of food entirely or refusal of certain articles of food.

Feeding Problems and Socio-Economic Status

Feeding Problems in children are general, but difficulties of this nature seem to be commoner in the homes of the well-to-do. This opinion is confirmed by results of research.

Interpretation of Occasional Loss of Desire for Food

There is no evidence that the occasional loss of appetite should cause anxiety on the part of the parent.

67	79	50	54	25	25
42	71	25	58	17	37
54	75	37	46	8	8
79	87	62	71	42	42
62	71	33	42	17	17
75	79	46	50	17	17
29	29	25	25	0	0
58	67	50	50	0	0

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	62	87	50	75	33	42
	71	71	67	71	50	50
	79	87	75	79	42	46
	83	92	75	79	33	33
	79	87	71	75	46	50

Generalization

Relation of Diet to Anorexia

Overfeeding, as well as foods rich in fats, may cause a reduction in appetite; vitamins and protein tend to increase appetite. This is discussed further in nutrition. On account of individual differences in digestive organs and in types of body build, it seems impossible to standardize the child's diet.

Inadequate Total Adjustment and Anorexia

A thorough study of the child's home and school environment is necessary in order to determine whether there are stresses and mental conflicts that interfere with the child's appetite and physical development.

Irregular Schedule and Anorexia

Irregularity in all the daily routine is of first importance as a cause of anorexia. Studies indicate only slight differences in amount of sleep between hungry, dawdling, and problem children and non-problem children.

Fatigue and Anorexia

A close relation exists between fatigue and anorexia; this difficulty is best overcome by taking care that the child is not overstimulated and by giving him a rest period before meals.

Other Causes of Anorexia

Among the causes of anorexia mentioned are acute and chronic disease, poor physical condition, poor mastication of food, malnutrition, eating between meals, and eating foods that remain too long in the stomach. High fever, constipation, decayed teeth, and enlarged tonsils and adenoids are also listed as causes.

General Treatment of Anorexia

To deal with a case of anorexia wisely, it is necessary to understand principles and underlying causes, psychological or physical. It will then be necessary to remove the

cause and to re-educate the appetite of the child. Withholding foods for a period, withholding some favorite dish, and setting a brief time limit for the meal are suggested as possible procedures to be used. The recognition of different food requirements of children is helpful.

Re-education of Parents, Nurses, and Attendants

In order to take care of faulty training, the first step for the prevention of anorexia in children is the education of the parent and others along the lines of dietetics and psychology.

Food Idiosyncrasies

Authors do not agree as to the best procedure in the case of food idiosyncrasies. Some urge leniency in the matter and recognition of the fact that the children respond to likes and dislikes. Other writers think that a child should eat everything set before him and that training will do much to lessen the number of food whims. The child's prejudices in regard to eating should be studied in relation to his total development and not in isolation.

Vomiting

Vomiting may be due to either physical or psychological causes. There is cyclic vomiting, nervous vomiting, and vomiting by imitation. If vomiting persists unduly, a physician should be consulted.

Relation of Negativism to Anorexia

Negativism may often arise in a child where opposition has been aroused by the exercise of too much authority on the part of the parent.

Relation of Dawdling to Anorexia

The habit of slow eating may perhaps contribute to the problem of anorexia, as the mother's irritation has the effect of slowing up rather than hastening the process. A study of the child's routine is necessary in order to remedy the situation.

Air Swallowing: Causes and Treatment

Air swallowing may be the result of some temporary gastric irritation. It is advisable to hold the baby, one to two months old, in an upright position until the air swallowed comes up.

Feeding a Newborn, Somnolent Infant

The infant should be kept from sleeping during feeding.

79	96	75	83	12	12
87	92	67	71	33	33
50	50	37	37	21	21
46	54	33	46	8	8
75	75	46	46	25	25
75	87	42	54	8	8
54	75				
50	71				

SLEEP

Generalization

Importance of Day Sleep

The nap is an important factor in insuring the physical and mental well-being of the child. The limits of the period in which the nap is, or should be, one of the scheduled items of the child's routine extend from birth to six years. The amount of time spent in daytime naps depends on age and the individual child; after the third year the nap tends to disappear on the so-called "all-or-none" principle.

Substitutions and Compensations for Nap

Rest and relaxation may be substituted when the nap is refused, outgrown, or omitted for various reasons. Children over five, it is generally recommended, should be sent to bed every afternoon for a short period—twenty or thirty minutes—and if by that time they are not asleep they should be allowed to get up. Some authors do not favor constrained napping periods; they believe it is better to dispense with the nap entirely and put the child to bed earlier. In a child of school age loss of midday rest may be compensated by a short rest period before dinner and supper.

Amount of Night Sleep

The very young child sleeps most of the time, awakening only from hunger, discomfort, or pain. A maximum of twenty hours is suggested on the average as the amount of sleep for an infant. A child from one to two years requires, on the average, nearly fifteen hours of sleep. A child from two to four needs only twelve to fourteen hours. These are average figures, and there are large individual variations.

Total Amount of Sleep; Seasonal Variation

Investigators indicate that there is a seasonal variation in the amount of sleep, they find a decrease of sleep during the summer. It is questionable whether this fact is due to inability to sleep during daylight or to permitted breaks in the routine, negative suggestions from parents, and influence of other children. Regarding the question of diurnal variation, less afternoon sleep was found on Mondays.

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	58	92	4	8		
	67	96	33	62	4	8
	87	96	37	37	12	12
	46	50	25	29	0	4

Bedtime Hour: Variation With Age; Importance of Early Hour

The hour for going to bed should be set early enough for the child to enjoy his full quota of sleep. Although the amount taken decreases with age, it is doubtful whether during the period of rapid growth the importance of early bedtime can be overemphasized.

Length of Time for Falling Asleep

Although the length of time for falling asleep may vary with the individual child, it has been found that for night sleep, as well as for the daytime nap, the average child takes about twenty minutes to go to sleep and that this time is fairly constant for all ages.

Sleeping alone is thought to promote the child's ability to fall asleep. There is a difference of opinion as to the effect of exercise on ability to fall asleep or as to whether this ability increases with age.

Adaptation to Noise

The routine of the household should not cease when the baby or child is asleep, though exceptions may be made if the child is very nervous or ill. Infants are not keenly sensitive to ordinary noises so long as they are comfortable and well-fed. Discrimination must be made between noises, incident to the environment and loud and sudden noises.

Habituation to Minor Details

Children become easily habituated to a certain room, bed, mattress, covers, pillow, and the like. It is best to vary these things at times so that the child will not become dependent for sleep and rest on any particular environment or furnishing.

Such practices as rocking a child to sleep, fondling, soothing, lying down with him, or singing to him are not generally recommended. Taking toys to bed appears objectionable on the ground that they suggest play and in stimulating mental activity postpone sleep.

Child's Sleeping Posture; Activity

In falling asleep, no characteristic position could be demonstrated. The sleeping child takes that bodily position which seems to guarantee him the greatest freedom from stimuli either internal or external. The change during the night serves to obtain a better adapted position; movements tend to become more frequent as sleep continues.

Desirability of Individual Bed

For health and future habits of normal sleep, a child should sleep alone. If both space and means are limited, the use of two cots instead of a double bed is suggested.

96 96 87 87 25 25

75 75 50 50 8 8

71 79 12 12

75 83 25 29

42 46 29 29 12 12

83 83 83 83 50 50

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	71	71	75	75	58	58
	79	83	67	79	29	29
	87	87	83	83	58	58
	37	37	42	42	37	37
	96	96	75	75	33	33

Generalization

Individual Sleeping Rooms

Discussions clearly point to a majority recommendation that a child have his own sleeping room. It is also agreed that children should not sleep in the same room as their parents, especially after early babyhood, or with an adult of the opposite sex. The general principle that a child should not sleep in the same bed with a child or adolescent member of the opposite sex is emphasized; at least, this practice is not warranted after infancy or earliest years.

Details of Sleeping Conditions

The child's sleeping conditions are to be considered from the standpoint of a comfortable bed, including good springs, mattress, and pillow. Warm, light bedcovers are recommended; too heavy bedcovers may cause insomnia, exhaustion on waking, or sensitivity. For winter, a warm sleeping bag is suggested as an excellent protection from the cold. "Sleepers" are regarded as ideal night wear for protection from cold.

Ventilation, Temperature, and Humidity

Ventilation and fresh air are quite generally accepted today as being important for the proper sleep of children. Cross ventilation is advisable, but drafts are to be avoided. A cool room is essential, and the humidity of the air should approximate that of the out-of-doors.

Quality and Depth of Sleep

The quality of sleep influences the individual's welfare as well as its quantity. Some experimental data have been offered to show that sleep tends to be deepest in the early part of the night, but the data are not conclusive.

Effect of Overstimulation

It is suggested that the hour before bedtime should be of a quiet nature. Over-strenuous play and romping just before going to bed may overstimulate the child to such a degree that he is not in a mood to fall asleep. Quiet activities or a period of rest just before going to bed are desirable.

Regularity in Sleeping Habits

The rhythmic character of sleep has a bearing upon the successful upbuilding of regular sleep in both children and adults, it is also one of the conditioning factors of sleeping habits. Regularity is one of the essentials in habit training for sleep.

Parental Attitudes and Methods of Securing Child's Cooperation at Bedtime

In general, many difficulties can be avoided by giving the child a few moments warning before bedtime and by enlisting his cooperation in undressing. Indifference to temper tantrums, consistency in actions and statements to the child, as well as a matter-of-fact and casual attitude toward wakefulness caused by desire for attention are commendable qualities in parental attitudes.

It is inadvisable to talk to the child about his sleep or his sleeping difficulties, to talk to others in the presence of the child concerning this matter, or to talk of your own poor sleep to the children or to your family and acquaintances.

Deception may be a potential and probably real factor in the development of sleepless nights for some length of time. Bribes and threats likewise are destructive to the child's attitude toward routine habits.

Desirable and Undesirable Forms of Attention to a Child at Bedtime

After the baby is strong enough to roll himself over, the best policy is to let the baby alone after he is put to bed, provided the routine is adequate and his needs have received attention. Too much adult attention tends to induce certain negative tendencies in the child.

Appointing and Controlling the Rising Hour

If a child goes to bed at a suitable hour, he will waken at a reasonably early hour. A fairly early rising hour is considered advisable from the point of view of the eating schedule. Children should be encouraged to get up immediately on awakening, but if a child is awake some time before the rising hour, toys may be allowed to keep him contented and occupied.

Relation of Sleep and Sleep Schedules to Food and Food Schedules

Good sleeping habits are closely associated with regularity in feeding. The baby is more likely to continue his afternoon nap if he is put to bed directly after the noon meal. An early rising hour is advised so that the breakfast will not be crowded too near the noon meal, with a subsequent loss of appetite. Indigestible meals or too heavy meals at night sometimes cause sleeplessness.

92	92	83	50	50
96	96	71	71	0
92	92	21	21	21
71	71	46	46	46
67	67	37	37	50

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	87	87	71	71		
	92	92	83	83	4	4
	83	87	83	96	54	54
	79	87	21	25		

Generalization

Putting to Bed as a Method of Discipline

Instead of threatening a child with the punishment of being put to bed, it is a wiser policy to teach him the restorative influence of rest.

Fear of Dark and Nightmares (Fear Dreams, Night Terrors)

A large part of children's fears are learned rather than inherited. In many cases fear of the dark is suggested by others, either by word or action. Carelessly chosen stories and undesirable games as well as faulty routines or physical causes may be the reason for night terrors and similar disturbances.

Relation of Exercise and Fatigue to Sleep

In regard to the relationship between exercise and sleep, it is generally held that exercise is conducive to sleep, but some investigators find the degree of outdoor activity engaged in by the child not significantly related to character and duration of nap.

Fatigue from generous exercise seems to favor the oncoming of sleep. Over-fatigue should be guarded against, since it may cause wakefulness. Mention is made of the theory of certain poisons manufactured in the body as responsible for sleep.

In general, a successful and useful day helps the child as well as the adult to enjoy a night of quiet and rest.

Self-Care in Dressing and Undressing: Norms of Accomplishment

In training a child to help dress and undress himself, the parents' underlying motive should be to cultivate independence and initiative in the child. As soon as he begins to take interest in doing things for himself, he should be allowed to have some part in the process; he can help more and more, until between the age of three and five the ability to dress or undress himself should be fairly adequately accomplished. Buttons and shoe laces give the most difficulty to the child. Ages given for accomplishing these tasks vary considerably.

Motor Disturbances; Dreams

Walking and talking in one's sleep may indicate physical disorders or some persistent conflict in the life of the child. If these symptoms continue after the routine has been properly adjusted, there should be an investigation by a physician.

Dreams themselves are difficult to interpret. The problem should be handled without secrecy.

58 62 46 50 33 33

Miscellaneous Factors Affecting Sleep

The child's sleep may be conditioned by his physical and mental status. Negativism frequently causes wakefulness. Inability to go to sleep is a common difficulty with young children and may be caused by various factors in the environment. Experimental studies on sleep and sleep activities show effects of motion pictures and of different drugs on children's sleep. Especial attention has been given to the favorable and unfavorable effects of caffeine dosage.

54 62 46 50 21 21

ELIMINATION

Generalization

Relative Ease in Establishing Bowel and Bladder Control

Bowel control is in general more easily established than bladder control and is attained earlier.

Age for Beginning Training

The age assigned for beginning bowel and bladder control ranges from the first few weeks of life to fifteen or eighteen months. Delayed training tends to increase the tendency toward enuresis.

Types of Toilet Equipment

Properly supported, the baby may be held over some sort of receptacle on the mother's lap. Equipment should be changed to suit the child's growth.

Regularity and the Training Schedule

Regularity is a necessity in training for proper habits of elimination. Some convenient time should be chosen. For defecation, this may be early morning, after breakfast, following the bath, after a nap, or after a meal. For urination, such times should be arranged after feeding, before and after a nap, before going to bed, and after awakening.

The length of time the child remains on the chair should be limited to prevent dawdling and irritation. Opinions on this point vary somewhat among contributors. Further, placing the child on the toilet too often may condition him to frequent wettings. As he grows older, the control period may be lengthened, but individual differences must receive consideration. The early morning period upon first awakening is the most difficult for the child to control, and parents should recognize this difficulty.

Distractions in Training

It is helpful to recognize the psychological features of elimination. Parents should not disturb the child by either urging or encouraging. It is suggested that the parent should not give the child toys or other entertainment while on the chair.

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	46	62				
	37	67				
	46	71				
	75	96	4	8		
	58	83				

Use of Punishment

Punishment should not be introduced into the training program for elimination any more than into that for sleep or eating. It tends to inhibit results and may set up states of fear and dislike in connection with the toilet situation.

Use of Rewards

In the matter of rewards, there is considerable difference of opinion among observers. Suggestions range from success as its own reward to a bit of candy, an apple, or an orange. Praise from the parent is also mentioned.

Relation of Diet to Bowel Control

Bowel control depends to some extent on diet. Certain types of food are laxative in their effect, while others predispose to constipation. Too much of one or the other type may complicate the training. There is disagreement as to the laxative effects of fats, particularly of cod-liver oil.

Use of Suppositories

Suppositories are useful in conditioning the child to the use of the chair. However, the practice of relying on suppositories should be avoided as their continued use may be detrimental to the child.

Characteristics of Stools

It is helpful for the parent to know the character of normal stools and the commoner types of variation in their appearance.

Value of Charts and Records in Training

In elimination, as in other functions that tend to follow a rhythmic pattern, a record is valuable in determining the times for urination and for defecation.

Norms for Bowel and Bladder Control, Factors Affecting Progress

Bowel control may in general be well established at eighteen months, although on this point we find variation of opinion. Suggestions for day control vary from fifteen months to the third year and for night control from the second to the fourth year.

Before control can be established, the child must be able to recognize inner sensations. If the child habitually asks to go, parents may be fairly sure that control has been established.

It has been suggested that early acquisition of language may affect bladder control, though this has not been confirmed.

71	92	4	12
37	58	0	8
37	92	17	37
33	79		
58	87	29	42
50	79	0	0
67	83	4	4

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	92	96	8	8		
	71	87	12	12		
	37	87	0	0		
	58	75	29	29		
	42	46	8	8		
	50	67	33	42	4	4

Generalization

Effect of Parental Attitude on Training

In developing control in eliminative habits, the attitude of the adult affects the attitude and progress of the child in much the same way that it does in other habit-training programs. Patience and calmness are helpful; shame, disgust, or apprehension influence the child unfavorably.

Value of Verbal Expression to Indicate Needs

In order to facilitate learning, suitable expressions should be taught to indicate the child's physical needs.

Influence of Clothing Upon Training

Simple training is both helpful and necessary in teaching the child self-care. Rubber pants may be used occasionally, but not continually, since they may accustom the child to being wet, thus bringing about irritation. In general, training pants have a good effect in promoting control.

Child's Attitude Toward Elimination

To build up wholesome attitudes in the child, simple principles of body economy should be explained and the relation of these principles to health emphasized. In general, lengthy discussions are not helpful to the child.

Relation of Intelligence to Control

The relationship of intelligence to control does not appear significant. However, when a child is below normal intellectually, it is somewhat difficult to establish habits of cleanliness. On intelligence tests, some investigations find the enuretic group consistently lower in general intelligence than the total population.

Number of Bowel Movements a Day

Concern as to regularity of bowel movements is of more importance than that of number of movements each day.

Incidence of Bowel and Bladder Irregularity					
Persistent difficulty is less common with bowel than with bladder control. The types of difficulty are similar.	50	54	4	4	
Causes and Treatment of Temporary Lapses					
Lapses may be expected, particularly when there is a change in schedule, considerable excitement, or illness. (Giving encouragement, avoiding punishment, and having the child assume responsibility (such as mopping the floor after an "accident") are suggestions as remedial measures.	67	79	4	12	
Precautions in Taking the Child to the Toilet During the Night					
The child should be thoroughly awakened so that control may be more conscious	87	87	29	29	
Causes of Enuresis Other Than Physical					
A variety of causes, such as desire for attention, fear or failure, desire for domination, and loss of self-confidence, are suggested as causes of enuresis. Faulty training and management may be responsible for these difficulties in personality	79	83	67	67	12 12
Physical Causes of Enuresis					
There is some disagreement as to the part that physical causes play in the case of enuresis. Contributing causes such as malnutrition, anemia, nervousness, and the like have been mentioned.	67	67	67	67	12 12
Incidence of Types of Enuresis					
Nocturnal enuresis is the commonest form of this difficulty. diurnal enuresis is of fairly frequent occurrence.	42	42	29	29	8 8
Incidence of Sex in Enuresis					
Studies of enuresis have tended to indicate that girls are somewhat less subject to this condition than boys. There is some indication of a larger percentage of girls who are disposed to diurnal enuresis.	33	33	21	21	
Treatment of Enuresis					
The important considerations are:					
1. Early treatment. Since enuresis is a symptom of physical, mental, or emotional conditions, it is obvious that the earlier treatment is begun, the earlier the difficulty will probably be removed.					
2. Diet: Simplification of food and restriction of fluids are two general principles that may be helpful.					

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	96	96	67	67	17	17

Generalization

3. Attitude of parents. By their positive or negative attitude toward the condition of enuresis in their child, parents may help or hinder the cure of this difficulty.

4. Methods of study: Careful observation and a record of important factors are the main lines of approach suggested in the correction of enuresis. Physical examination should be one of the first steps.

5. Training. Motivation and suggestion may be helpful aids in establishing correct habits.

Overcontrol During Sleeping Periods as a Problem

Overcontrol may indicate a negativistic tendency or merely a difficulty in awakening from deep sleep. If strong resistance occurs, the child may be put back to bed and an attempt made later.

Incidence and Treatment of Bowel Irregularities

Soiling is less frequent than enuresis. Treatment for such lapses is much the same. Irregularities may be caused by emotional factors in parent or child as well as by physical features. Before attempting to remedy extreme constipation or loose bowel movement, expert advice should be sought.

54	58	25	29		
62	67	17	17		

PLAY

Generalization

Definition and Theories of Play

1. In general, to the adult, work is the major business of life. It is an activity directed toward an end and motivated to a large extent by external requirements, while play is characterized by relaxation. To the child, play is the major activity of life, an end in itself. He is fascinated by learning to manipulate objects and people about him. His relaxation comes through rest and sleep.

2. Several theories have been advanced to explain the significance of play. The best known of these are the Schiller-Spencer theory, the Gross theory, and the recapitulation theory. No theory is fully accepted at present.

Importance of Play in Development

Play is essential to the normal development of the child not only physically but also mentally, socially, and emotionally. Play may afford an early introduction to music, art, literature, and the handicrafts.

Value of Outdoor and Indoor Play

The necessity and value of both outdoor and indoor play are emphasized. It is the parents' responsibility to provide play space, both indoors and out, where the child's independence and initiative are not hampered by adults. Suggestions are made as to how the child may become accustomed to solitary outdoor play. Outdoor play equipment is discussed.

General Principles for Selection of Play Materials

In selecting play materials, one should bear in mind that toys and play-things should contribute to the physical and mental development of the child. Play materials should be simple, suitable, adaptable, safe, hygienic, durable, and strong. Within limits, play-things should conform to standards of art as to line, proportion, and color. Simple and inexpensive home materials may have as much value for the child's development as the most elaborate and conventional equipment on the market. In choosing toys, the needs and abilities of the child should be borne in mind.

Preschool	Elementary School	High School
Father	Father	Father
37	37	12
37	37	12
100	100	83
100	100	83
100	87	58
100	87	58
100	83	42
100	83	42

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	50	50	46	46	17	17
	96	96	79	79	25	25
	79	83	83	87	37	37
	96	96	87	87	67	67

Generalization

Play Preferences as Related to Age, Sex, Locality, Intelligence, Race, and the Like
 Several research studies on play preferences indicate possible tendencies. Preferences in play materials and activities vary with age. Play preferences do not seem to be influenced by sex during the preschool years. At the kindergarten age a slight sex difference appears, and this seems to increase with age. Climatic environment and local tradition to some extent determine differences in amusements in various localities. Some differences have been found between delinquents and non-delinquents. Although play interests change as children develop mentally and physically, the change is gradual and overlapping of interests often occurs. There is great individual variation as to type and number of play interests.

Number and Variety of Play Materials

Play materials should be limited in number but should lend themselves to a variety of uses. Too many materials may encourage destructiveness, overstimulation, and instability. Variety is needed to broaden the child's mental horizon. A few carefully chosen adaptable play materials may offer a great variety of play.

Care of Play Materials

The child should be taught early to care for his toys. It is recommended that a suitable and convenient place be provided and that the child be held responsible for putting his possessions in their places. Parental attitude is often a powerful factor in influencing the child's reaction to the situation.

Constructiveness in Play

Constructiveness in play may be stimulated through carefully chosen play materials. Such materials as blocks for building, clay for modeling, wood for carving and toy making, food for cooking, and cloth for sewing are types that foster constructiveness in play. Constructive play is helpful in bringing about concentration of thought, improvement of motor control, and a knowledge of the characteristics of materials.

Destructiveness in Play

There are many conditions that may lead to the development of destructiveness and carelessness in play. Examples are: more toys than the child can use; mechanical toys which can do only one thing and which the child can only watch; flimsy, cheap, and poorly constructed toys. These traits or tendencies may be averted by providing materials that can be taken apart and then reassembled and by removing the conditions that suggest destruction. Destructiveness may have a different meaning for the child than for the adult. Adults should try to get the viewpoint of the child to determine whether he is destroying to satisfy his curiosity, to gain attention, or for some other purpose.

Dress for Outdoor Play

Proper dress for outdoor play for all seasons of the year should be provided. At all times it should be loose and comfortable. In cold weather warmth and dryness in clothing are essential. Waterproof clothing is needed for rainy weather. In summer the child should be exposed to the sunshine. Light sun suits are serviceable for play. Garments which encourage self-help on the part of the child are desirable.

The Child's Own Quarters

Many advantages accrue to the child who has his own play quarters, whether indoors or out. Friction between parent and child may be reduced and greater opportunity provided for developing self-reliance and initiative. Having his own quarters may also help the child to learn to appreciate property rights.

Playroom Furnishings

Playroom furnishings should be sanitary, comfortable, safe, and suited to the child's physical and mental development. They should be attractive and cheerful and should contribute to the child's feeling of pride in ownership.

Solitary Play

In establishing habits of solitary play, training may start early. Suggestions are given for such training. As the child grows older periods of solitary play become less frequent, but a child of any age should be able to play alone part of the time.

Adult Companionship

Children may gain much from adult companionship. However, too much adult companionship may cause children to become dependent and to lack self-confidence, or it may cause overconfidence and overstimulation. The amount of adult companionship must be studied in relation to the child's development.

92	92	79	79	37	37
75	100	62	79	12	12
83	83	92	92	75	75
83	83	75	75	21	21
75	83	54	54	29	29
87	92	71	71	29	29

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	83	87	69	71	29	29
	50	54	37	42	17	17
	83	87	83	83	67	67
	29	33	54	58	50	50
	67	67	83	83	50	50
	54	71	46	71	17	17

Generalization

Interruption and Direction of Play

There should be some parental supervision or guidance of the child's play, but intelligent disregard by the adult is desirable for the most part. Legitimate excuses for interrupting children's play include the needs of food and sleep routines, recognition of times of danger, and intervention when children quarrel and the interests of fair play demand it. The adult should not dominate the child's play.

The Play Element in Routines

Whether the play spirit should enter into the assigning and executing of a child's task is a question. Some investigators believe that an uninteresting task can be made interesting by introducing the play spirit. Others recommend that routine should not be made attractive by turning it into play, but should be accomplished as speedily as possible so as to leave more time for play.

Values of Group Play

Many values may be obtained through group play. These include stimulation to earlier talking, an enlarged vocabulary, the development of cooperation and leadership, social adjustment, and self-discipline. A child with a tendency toward introversion may be encouraged to take part in group play.

Leaders of Play Groups

Leaders of play groups are often chosen because of such qualities as skill, daring, enthusiasm, and pleasing personality. Competition within a group often brings out latent abilities. Leadership may pass from one child to another.

Value of Animal Pets

Caring for and associating with animal pets may contribute to many desirable qualities in children. The kind of pet to be selected will depend largely upon the location of the home and the space available. Responsibility of caring for a pet should be given the child as rapidly as it seems advisable for him to assume it.

Play Materials for Special Occasions

Such occasions as a rainy day, mild illness, a period of convalescence, or a long automobile or train trip may require a careful selection of play materials. The special

needs of the child on such occasions should be recognized Illustrations are given to show how this may be accomplished

Imagination and Dramatic Play

The use of imagination in play begins at an early age It may be encouraged by providing equipment that offers opportunity for self-expression, for rehearsing experiences, and for other forms of dramatic play It is possible to develop an abnormal imagination Suggestions are given to prevent this

Play Times and Schedules

A few writers have given suggested schedules in detail The important suggestions are pointed out The need is emphasized for adaptation to individual conditions through application of generalizations

Norms of Development as They Relate to Play

The play activities are listed which were engaged in by specified proportions of subjects at different age levels Deviations from norms are to be expected Norms of other phases of development such as motor development and mental development, may be found in their respective sections

Methods of Studying Play

Several methods have been used for studying children at play, such as direct controlled and direct uncontrolled observations, questionnaires, and tests As research continues, other techniques will be devised The mother as an observer has some advantages over a person outside the family provided she is trained in methods of study

Methods of Coping With Neighborhood Conditions

Suggestions are made as to how neighborhood problems may be solved Cooperation among parents in the group is preferable to solution imposed from an outside agency Conditions may be improved through the initiative of individuals or of groups of parents

Play as Related to Intelligence

Mentally gifted children seem to engage in as many play activities as children less gifted and to show greater diversity in play Gifted children seem to be more popular in school than children of average mental ability

The Attention Span in Play

Small children have a short span of attention Sustained interest is a matter of growth The length of the attention span varies not only with age but also with type of play material and other factors

67	71	75	79	46	46
21	33	21	29		
29	33	21	25		
17	25	12	21		
71	71	75	79	29	29
42	42	46	46	33	33
58	62	42	46	17	17

SEX EDUCATION

Generalization

The Child's Curiosity About His Body, About the Body of Others, and About Sex

The child is naturally curious about his body, about the body of others, and about sex. This curiosity is similar to his interest concerning other objects in his environment and may be treated in a similar manner.

Importance of Sex Education; Relation of Early Sex Attitudes to Optimum Development

Sex education is important, as sex processes are deeply rooted biologically. Examples are given of mental conflicts and sex abnormalities which may have been caused or colored by false attitudes or ideas of sex obtained early in life.

Reasons for Parents' Failure to Give Children Proper Sex Instruction

The failure of parents to meet adequately the needs of their children for sex education is often the result of an emotional attitude toward sex or lack of information as to proper methods and suitable subject matter. Details of proper methods are given in other units.

Responsibility of Parents in the Sex Education of Their Children

To establish desirable parent-child relationships in regard to matters of sex, it is helpful that parents mutually share the responsibility of giving children their early sex information. Parental responsibility arises also from the fact that at present the home is the only agency which has contact with all children at the age when their first sex questions arise.

The Approach in the Giving of Sex Education

It is suggested that parents' information be given in the calm, simple, unemotional manner used in discussing other topics.

Importance of Adequate Information; Effects of Misinformation

The importance of giving adequate information is shown by the distress in childhood, the difficulties in social adjustment and the maladjustments in later life which

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	92	96	92	92	46	46
	71	75	83	83	62	62
	62	62	62	62	37	37
	92	92	87	87	67	67
	96	96	96	96	79	79

may arise from false information given to the child, or from false conceptions figured out by himself. Myths regarding reproduction are to be avoided, for when the child learns the truth he may develop resentment and lose confidence in his parents.

Time of Beginning Sex Education

Attitudes toward sex are developed at an early age. Sex should not be over-stressed by undue attention to sex organs, sex functions, or the subject in general. Observers do not agree as to time for or amount of more detailed sex education. The majority agree that the child's questions should be answered promptly and briefly when the child asks them. Timeliness of instruction may be more important than the specific age of the child at the time of enlightenment.

Desirability of Developing a Vocabulary for Body Parts and Functions

If children are taught the accepted names for the different parts of the body and their functions, they will not have to unlearn the incorrect vocabulary later. The usually accepted vocabulary of body parts and functions includes breast, navel, nipples, abdomen, bladder, emptying the bowels, urinate, anus, penis, foreskin, testicles, vagina, defecate, constipation, loose bowels, pregnant, rectum.

Influence of Family Attitudes Upon the Child's Attitude

Parents are largely responsible for the unconscious elements that determine the child's opinions and feelings toward sex. If parents themselves are serene and possessed of wholesome attitudes, they can more effectively influence their children's attitudes in the direction of optimum development. Children may acquire attitudes independently of formal instruction.

Relation of Sex Education to the Teaching of General Hygiene

The teaching of general hygiene, such as cleanliness and regularity of bodily functions, is another phase of sex education. Details are given in connection with general hygiene.

Knowledge Concerning Reproduction

It is suggested that the information given the child concerning reproduction includes an explanation of both the mother's part and the father's part. Often a favorable time to give this information is when a new baby is expected.

100	100	96	96	62	62
96	96	79	79	42	42
79	79	96	96	42	42
92	92	92	92	75	75
50	50	67	67	62	62
71	79	92	92	79	79

	Preschool		Elementary School		High School	
	Father	Mother	Father	Mother	Father	Mother
	75	75	75	75	33	33
	21	21	54	54	75	75
	17	17	96	96	100	100
	58	62	79	87	54	54
	92	96	21	21		
	75	83	67	67		

Generalization

Use of Plants and Animals in Teaching the Facts of Reproduction

Animals on the farm and pets at school and at home may frequently help to give the child an understanding of the way life begins. The parents may often supplement their teaching by analogies drawn from animal and plant life.

Direction of Sex Impulses, Meaning, Attainment

Since our present social organization assumes that late marriage is desirable social welfare requires redirection of the sex impulses. This may be accomplished through an active participation in sports and an enthusiastic pursuit of hobbies and interests.

Information Concerning Pubertal Changes

Pubertal changes, such as seminal emissions, menstruation and the secondary sexual characteristics, should be explained before they appear. When to give information concerning the opposite sex, particularly concerning the phenomena of menstruation and seminal emissions, will depend upon the individual situation.

Development of Attitudes of Privacy and Discretion

Under present social conditions it seems desirable that children learn certain attitudes of privacy and discretion. In attempting to develop these attitudes care is necessary to prevent a connotation of guilt or shame. Degrees of privacy and discretion demanded by society vary with the age of the child.

Developing of Knowledge of Physical Differences of the Sexes

Children should be acquainted in the preschool period with the external differences of the two sexes. Parents may provide this opportunity for their children through a wholesome mingling of the two sexes in the home up to the fourth or fifth year.

Preparation of Parents for Child's Questions

It is often helpful for parents to find and familiarize themselves with accurate answers for the general questions that children ask concerning sex as: "Where do babies come from?" Questions often come in an unexpected form. Practice in framing the answer will prevent the parent from a feeling of inadequacy when the situation arises. Examples of the more frequent questions are included in the unit.

Influence of Social Attitudes on Sex Education

The attitude of secrecy and other traditional attitudes toward sex imposed by society in general hampers early sex education. There should, however, be less concern in the child's passing on correct information than in his passing on incorrect information or developing undesirable attitudes

Value of Books in Giving Sex Education

A book is in general regarded as a poor substitute for a frank discussion between the parent and the young child, but with older children a carefully selected book may be used to supplement parental discussion. Suggestions for good books are included for both parents and children.

Masturbation: Incidence, Causes, Dangers, Treatment

1. Masturbation is so common a practice among children that it is considered an almost universal one. Though it is commoner in older children, quite young children and even infants seem to experience pleasurable sensations in handling or otherwise stimulating the genitals or "erotic zones."

2. Masturbation may be caused by faulty personal hygiene, by too high tension in the child's life, or by other factors

3. The dangers of masturbation to the physical and mental well-being of the child are more apt to come from injudicious treatment than from the habit itself.

4. Authors do not agree as to the type of method that should be employed in the treatment of masturbation, but a redirection of interests and energies is generally considered helpful.

Early Sex Difficulties and Experiments Other Than Masturbation; Method of Meeting Such Situations

Sex difficulties and sex experiments in early childhood may usually be handled by giving fuller correct information.

Stages in the Development of the Child's Love Life

There are various classifications for the stages in the development of the child's love life. The affectional life of the child may need special guidance.

Relation of Sleeping Arrangements to Sex Problems

For the formation of desirable habits and for the prevention of undesirable habits, children should occupy a separate room from their parents. The sexes should be separated after the earliest years and each individual given his own bed.

Thumb Sucking in Relation to Sex Impulses

Relationship between thumb sucking and sexual striving has not been established; there is a difference of opinion as to the probability of this relation.

71	71	75	75	50	50
37	37	87	87	71	71
75	79	87	87	75	75
71	71	71	71		
25	25	46	46	58	58
71	71	75	75	62	62
25	29	8	12		

growth, a very small proportion (.08) were judged of greater importance for mothers than for fathers at the preschool age level; none of those applying to the elementary or adolescent levels were judged to differ in importance.

Analysis of the data in this tabulation indicates that the proportions of generalizations showing differences are negligible except, perhaps, for those generalizations involved in guiding some of the routine activities of the child at the preschool level. Two proportions on this level, that for the generalizations related to eating, and that for those related to elimination, are fairly large. All of the other figures are either zero or very small. In general, therefore, the data tend to indicate that with the exception of a few of the details of routines on the preschool level, there are no differences in the importance of generalizations pertaining to child development as between fathers and mothers.

SUMMARY

In this study an extensive list of generalizations relating to eleven phases of child development was built from the most refined data available. Judgments of the importance of the generalizations for the intelligent care and guidance of children were obtained for fathers and for mothers separately. The important findings are as follows:

1. A total of 319 generalizations were developed. These are distributed through the various phases of child development as follows: motor development 13, intellectual development 31, emotional development 40, social development 36, language development 27, physical growth 27, eating 40, sleep 26, elimination 28, play 27, and sex education 24.

2. The reliability of the importance judgments is indicated by the following data: By the "split-half" method, all sections, preschool level .95, elementary school level .92, high school level .88; by the "rejudging" method, five sections (at random), preschool level .92, elementary school level .92.

3. The importance scores for the individual generalizations are given in the tabulations on pp. 40-97.

4. As measured by the method used in this study, there are no differences in the importance of individual generalizations for mothers as compared with their importance for fathers. A possible exception

appears in some of the generalizations relating more specifically to routines where the importance scores are somewhat higher for mothers than for fathers. But for the great majority of generalizations there are no differences.

PART THREE

THE MEASUREMENT OF ATTITUDE TOWARD
SELF-RELIANCE

by

RALPH H. OJEMANN, Ph.D.

THE MEASUREMENT OF ATTITUDE TOWARD SELF-RELIANCE

One of the important achievements of the child is the development of an increasing degree of independence of parents and other persons, especially adults, in his environment. Common and clinical observations have indicated that the attitudes of parents toward the development of increasing self-reliance may be an important factor influencing the child's growth and adjustment.

These considerations make it appear desirable to study this attitude of adults in more detail. What precisely is the attitude held by representative parents? What precisely is the relationship between the attitude of parents and that of their children? What is the optimum attitude? Can this attitude be modified? If so, what is the relative ease at various chronological and mental age levels?

Common to all these problems is the need for a measuring instrument. It is the purpose of this study to devise such an instrument and to apply it to the study of the attitudes held by representative parents and to compare their attitudes with those of highly trained parents. Subsequent studies in this monograph will present data showing that through the use of carefully constructed learning programs this attitude can be modified at various age levels. The levels studied extend from the late adolescent or senior high school age to middle adulthood.

Before proceeding it is necessary to say something about the meaning of the term "attitude." We are using the term to refer to the way one feels or is set toward things. In the tests that are devised the subject is asked to express verbally the way he believes and feels. For this reason it is more accurate to say that an attitude is the verbal expression of one's feelings. However, in studying the validity of these tests, the scores are compared with the description given by a trained interviewer after an extended interview with the subject. The test measures the subject's verbal expression, but in a valid test there is a close correspondence between this expression and that of a trained examiner.

CONSTRUCTION OF TESTS

In the measurement of attitudes the statement method of Thurstone presents itself as having considerable possibilities. In the application of this procedure to our studies, however, a difficulty at once became apparent. In general, most scales employ rather extensively what may be called a key-concept. In Thurstone's scale for measuring attitude toward church, for example, we find such statements as these:

"I think the teaching of the church is altogether too superficial to have much social significance."

"I believe in what the church teaches but with mental reservations."

"I feel the church services give me inspiration and help me to live up to my best during the following week"

In all of these the concept "the church" appears and may be referred to as the "key-concept." Whether or not one agrees with a given statement may depend upon the type of church one has in mind. Churches, as other social agencies, may vary from the extreme right to the extreme left, and one's attitude may be highly favorable to the liberal type and highly unfavorable to the conservative type or vice versa.

Similarly in self-reliance, whether or not one agrees with a statement containing the word self-reliance depends upon what meaning "self-reliance" has for one. This assumption was tested by having a group of parents known by the writer to differ in their attitudes toward the development of self-reliance write a paragraph describing their attitude. Almost without exception they stated that they felt highly favorable toward it. In a more detailed investigation of individual cases, it became apparent that the subjects differed widely in what they called "self-reliance" or thought of when the term was used. Therefore, in the construction of this and other attitude scales, the general policy was adopted of defining the key-concept.

In applying this policy to the construction of the self-reliance scale, it is difficult to define the concept "self-reliance" without explaining in detail representative activities of the child. It was judged more feasible to use as material for the test itself a series of items which are essentially descriptions of activities in which practically all children engage in their daily work and play. The subject could then be asked to indicate what he believed to be an optimum age at which the ability to perform these should be developed. For example, to such an item as, "I believe a child should be able to make a good selection of his own meal when dining in a hotel or restaurant by

the age of ----" or "I think a child should be able to unbutton one-half inch buttons when in the *front position* by the age of ----," the subject would be asked to respond by inserting an age in the blank.

This raises at once the important question of variation in developmental capacity which affects the age at which a given ability becomes possible and feasible. To overcome this difficulty, the subject is asked to consider a child who is near the mean of a large unselected group. In the item just mentioned, for example, the age at which a child can learn to select his meals depends somewhat upon intelligence. The subject is asked to consider a child of approximately 100 IQ.

At this point we may raise the question as to whether a test consisting of such items as the one just given may be nothing more than a memory test. The final answer to this question must be given by data relative to the validity of the test, but there are certain *a priori* reasons which tend to support the contention that a test of this type measures attitude to the extent that an opinion is an expression of attitude. The exact ages even for average children at which the abilities become feasible are not known. One cannot, therefore, respond to the test through memory alone. Furthermore, in making a response the subject has the entire age range to draw upon. There is no indication in the individual items as to what a favorable or unfavorable response might be.

The first step in the construction of the scale consisted in compiling an extensive list of children's activities involving the acceptance of responsibility by the child and the casting of the statements in such a form that they could be completed by the insertion of an age. One hundred twenty-four items were prepared. These were submitted to ten judges all of whom had at least one year of graduate work in child development. They were asked to read the items critically and to offer suggestions for their improvement. Revisions were made and the items resubmitted until most of them appeared to be in a satisfactory form. Those still unsatisfactory were then deleted.

The remaining items were divided into three groups corresponding to three age levels in children. All the items marked by the median of the judges as falling at some point between birth and eight years were grouped together and labeled as the test for parents of pre-

school children. Those falling between three and fifteen years were grouped together for the test for parents of children of elementary school age. Those falling above seven years were grouped as the test for parents of adolescents. There is some overlapping, therefore, in the items of the various tests, but that does not appear to be undesirable. In the final arrangement the preschool test included fifty-two items, the elementary test thirty-seven, and the high school twenty-five.

The method of developing a scoring key for this type of test will also have to be somewhat modified from the usual psychophysical procedure. It would not be feasible to have all the possible responses allocated on a linear continuum by a group of judges. It was decided, therefore, to locate approximately the extremes and the neutral point for each item and then to construct a scale of eleven steps using three reference points. The extremes and the neutral point for each item were determined as explained in the following paragraph.

The items were submitted to a group of twenty judges all of whom were highly trained in the field of child development. The judges were asked to designate three responses for each item: one response which they considered to represent an attitude so highly favorable that in their opinion it could receive a rating of 1 on an eleven point scale, another which they considered to represent such a highly unfavorable attitude that it could receive a rating of 11, and a third representing a response which could be rated as neutral. The ages for each of the three points on each of the items were plotted on a cumulative frequency graph and the median chosen as the location of the corresponding scale points. That is, the median response of the judges as to what represents a highly unfavorable attitude on a given item marked step 11 for that item, the median of the responses representing a highly favorable attitude was chosen as step 1 for that item, and so on. The location of the five steps between 1 and 6 was determined by dividing the difference between step 1 and step 6 by five and increasing each step by this amount. A similar procedure was followed to determine the numerical values corresponding to steps 7 to 10 inclusive.

In assigning scale values to the ages given by subjects in response to the test, the scale value of the age nearest to that given by the subject in response to an item is the subject's score on that item. If the age given was at an equal distance between two points on

the scale, it was assigned the larger scale value. If the age given was below that at step 1, it was given a value of zero; if the age was above that represented by step 11, it was assigned a value of 12.

Each subject's score is the arithmetical average or mean of the scores on the individual items.

ADMINISTRATION OF TESTS

A set of carefully worded directions to the subject which make the test practically self-administering accompany each form. These instructions are as follows:

The following pages contain a list of items such as this:

I think that a child should be able to brush his teeth daily without being told to do so by the age of ----.

We want you to read an item, then think of children who are neither high nor low in intelligence, physical development, etc., but near the average. Then mark in the blank the age at which any one of these "near-average" children should be able to perform this task.

For example, if you think that the average child should be able to brush his teeth daily without being told to do so by the age of five years, place the figure 5 in the blank, like this:

I think that a child should be able to brush his teeth daily without being told to do so by the age of 5

In some cases you may wish to put down the age in months rather than years. In such cases write "mos." after the figure, like this:
2 mos.

We want your own opinion on each item.

The subject is allowed as much time as is necessary for him to consider all the items. In actual practice from fifteen to thirty minutes are usually required.

RELIABILITY OF TESTS

The data relative to the reliability of the three tests as indicated by the correlation of chance halves and the application of the Spearman-Brown prophecy formula are presented in the following tabulation:

Test	Subjects	Mean	Standard Deviation	Reliability	Spearman- Brown Prophecy r
Preschool	119	6.71	1.74	.93 \pm .01	.96
Elementary	89	6.68	1.45	.89 \pm .01	.92
High School	42	6.67	2.05	.73 \pm .04	.85

The subjects were all parents. All subjects taking the preschool test had children between one month and five years of age inclusive; all

those taking the elementary test had children between the ages of six and twelve years inclusive; and all those taking the high school test had children between the ages of thirteen and eighteen years inclusive.

The reliabilities of the test designed for parents of preschool children are sufficiently high to warrant the division of the test into two forms. This was done by grouping the odd numbered items together as Form 1 and the even numbered items as Form 2. The equivalence of the forms is indicated by the respective means. The mean of Form 1 for the 119 subjects is $6.64 \pm .11$ and that of Form 2, $6.79 \pm .11$. Copies of Forms 1 and 2 of the preschool test and of the elementary and high school tests are given in the Appendix (pp. 345-346).

VALIDITY OF TESTS

The question here is essentially, does the test measure what it purports to measure? This involves a definition of attitude.

The concept of attitude adopted here and as indicated earlier in this discussion and in Part One of the monograph is not synonymous with overt behavior. What an individual does in a given situation depends upon two groups of factors: the development of the individual at that instant and the attendant circumstances of the situation. On the part of the individual we have knowledge, emotional patterns, and skills as well as attitudes. What he will do in a given situation depends upon all these and their integration. He may hold an attitude which cannot issue into overt behavior directly because the necessary skills are lacking, because there is an emotional disturbance brought about by the general situation or carried over from another situation, or because of lack of knowledge. In investigating the validity of an attitude test, therefore, we would not expect to correlate attitude scores with overt behavior except under what might be called "standard conditions of individual and environment,"¹ that is, under known uniform conditions of knowledge, emotional make-up, and so forth on the part of the individuals and in a situation that is interpreted in the same way (except for attitude) by all the subjects.

In the discussion of the construction of the test the *a priori* reasons for selecting the type of test item used were given. Investigations under way at this time tend to indicate that there is a close rela-

¹This phrase was suggested by the familiar "standard conditions of temperature and pressure" which is universally used by chemists and physicists in describing the behavior of matter.

tionship between the attitude score obtained by an extended and carefully conducted personal interview and that obtained by the test. These data provide additional evidence in favor of the validity of the tests.

DISTRIBUTION OF ATTITUDE SCORES

To obtain an indication of the distribution of attitude scores in untrained parents, the preschool test was administered to 119 subjects, the elementary school test to eighty-nine subjects, and the high school test to forty-two subjects. These subjects were parents of children ranging in age from a few days to forty-one years. Contacts with the parents were made through the preschools of the Iowa Child Welfare Research Station, the public schools in a city of 15,000 population, and the maternity ward of the State University of Iowa Hospital. The preschool test data include a group of forty-nine subjects from a small Iowa town of 4,000 population. The data relative to sex, education, and mean number of children are given in the following tabulation:

Test	Total	Sex		Education			Mean Number of Children in Family
		Mothers	Fathers	Per Cent Partial or Elemen- High Complete tary School Col- lege			
Preschool	119	108	11	33	38	29	1.7
Elementary	89	79	10	31	40	29	2.5
High School	42	33	9	36	38	26	2.4

The distribution of attitude scores in the three groups is indicated by the data in the following tabulation:

Test	Number	Mean	Standard Deviation
Preschool (entire test)	119	6.71	1.74
Elementary	89	6.68	1.45
High School	42	6.67	2.05

An examination of the data shows that in all three groups of parents the mean is on the unfavorable side of the scale with a fairly symmetrical distribution about the central tendency.

This is an interesting finding and indicates the extent to which parents tend to be reluctant in allowing the responsibilities to pass from parent to child. The data also give some indication that this reluctance tends to continue throughout life unless some special effort is made to modify it.

THE OPTIMUM ATTITUDE

In the interpretation of the data just presented relative to the

distribution of attitude in untrained parents, it is helpful to have some indication of the degree of favorableness or unfavorableness toward the development of self-reliance on the part of parents that is conducive to optimum development in children. The general assumption especially in clinical literature seems to be that a highly favorable attitude is desirable but just how favorable no one has attempted to say. The problem, of course, is an exceedingly difficult one. The assumptions underlying our approach to the question were discussed in Part One of this monograph. Essentially, the plan is to obtain the judgments of a group of highly trained individuals, who are assuming the responsibility for guiding children, as to the attitudes they are finding conducive to optimum development in children as they conceive it.

Each attitude scale was submitted, therefore, to a group of fifteen judges all of whom had at least one year of graduate training in child development, were assuming the responsibility for guiding children, and were interested in the process of guidance. The judges to whom the preschool tests were submitted included four preschool teachers of wide experience. The judges for the other two tests included two scout masters of extensive experience. All of the others were parents. The judges were asked to respond to the test in terms of what they were finding helpful for achieving optimum development in children. The data are summarized in the following tabulation:

Test	Mean	Range
Preschool	2.88	2.2 to 3.4
Elementary	2.41	2.0 to 3.6
High School	2.56	1.9 to 3.7

The first point of interest is probably the mean score. This varies from 2.41 for the elementary test to 2.88 for the preschool test. A comparison of the mean scores of untrained parents with those of the judges at once shows considerable discrepancy. There is a difference of approximately four scale steps between the two means on all of the tests. The untrained parents are distinctly more unfavorable to the development of self-reliance.

The second point of interest is the range of the judges' scores. This is given in the last column of the above tabulation. Inspection of the data shows that the range is relatively small. Here, then, is an attitude which does not show a wide dispersion in the judgments of highly trained individuals. The optimum attitude as measured by this method represents a relatively small area.

THE NEEDS OF THE LEARNER

We are now ready to make an application of these data to the problem of determining the needs of the learner. If we define need as the difference between the development of the learner and optimum development as indicated by a composite judgment, we can express rather definitely the "needs of parents" as related to the attitude toward self-reliance. The need in terms of our present knowledge is to bring about a change from a mean between 6.5 and 7.0 to a mean of approximately 2.4 to 2.9 with a small variability about this mean.

SUMMARY

In this study the method of constructing scales for measuring parental attitudes toward self-reliance and the results obtained in a study of the attitudes of untrained parents are presented. Three scales were constructed, the important findings are as follows:

1. The reliabilities of the three tests as measured by the correlation of chance halves and the application of the Spearman-Brown prophecy formula are as follows:

Test	Mean
Preschool (entire test)	96
Elementary	92
High School	85

2. The mean scores on an eleven point scale (1 favorable, 11 unfavorable) of the untrained studied in this investigation fall on the unfavorable side of the scale. The means are 6.71, 6.68, and 6.67 for parents of preschool, elementary school, and adolescent children respectively.

3. The mean score of fifteen highly trained judges is far to the favorable side of the scale. The numerical values are: preschool test 2.88, elementary test 2.41, and high school test 2.56. The range of the judges' scores is relatively narrow.

The method of expressing the "needs of parents" as applied to attitudes through the use of attitude scales is illustrated in the comparison of the scores of untrained parents with those of highly trained individuals engaged in the process of guiding children. The dynamic character of the concepts "optimum" and "needs" discussed in Part One of this monograph applies to attitudes as well as to other aspects of development.

PART FOUR

THE INFORMATION AND ATTITUDES
REGARDING CHILD DEVELOPMENT
POSSESSED BY PARENTS OF
ELEMENTARY SCHOOL
CHILDREN*

by

LOIS ALBERTA ACKERLEY, Ph.D.

*This study was directed by Dr. Ralph H. Ojemann.

CHAPTER I

METHODS FOR THE DETERMINATION OF PARENTS' NEEDS

The purpose of this study is to determine some of the needs of parents of elementary school children. Failure to make an adequate determination of the needs of parents has led to uncertainty in the selection of materials for use in child study groups. Consequently, present programs in the field of parent education are largely make-shift in character.

In a questionnaire Stoddard (12) asked 277 widely separated parent education groups to rate on a four point scale the emphasis they gave to fifty-three selected topics. The returns showed a great diversity in the selection and emphasis of topics although the groups were agreed that the content should be based on the needs of the parents.

Various methods for determining the needs of parents have been proposed. Tilson (13) studied 225 American-born children ranging in age from one to five years who had been referred to a habit clinic. The data concerning these children were analyzed to ascertain the relationship between various behavior problems and such factors as chronological and mental age of the child and the education, occupation, religion, and nationality of the parents. The results were intended to show the needs of parents of preschool children, and were to be used as a basis for parent education. But Tilson did not present a program showing how this information might be used as curricular material in parent education.

The results of such studies of children's problems merely reflect the needs of parents instead of constituting the needs themselves. Problems seldom exist in isolation. If a child develops an undesirable behavior pattern, there are usually several points that call for correction. In reality, the problems are indicative of more fundamental disorders. Since there is something more fundamental that needs correction, a study of the behavior problems of children offers little help as a basis for curriculum construction. The factors that

should form the basis for parent education are the underlying causes of the problems found to be common to similar situations.

The attitudes and practices of parents furnish another possible method for discovering their needs. Laws (8) used four objective tests to study the attitudes and practices of parents concerning the social adjustment of children. The attitude test used in this investigation recorded a quick emotional reaction to stimulus words dealing with parent-child relationships. Laws assumed that such a test would furnish a means of determining the content of a parent education course. "This one test given in sufficient number of cases, distributed over a wide geographical area, and including different levels of society, would give valuable and reliable guidance to the placing of emphasis in child study programs designed to modify the attitudes and practices of parents." (8, page 32) The results of her investigation showed that tests dealing with practices of parents were decidedly limited in their use for parent study groups. The chief value was to aid individual parents in analyzing their own problems of adjustment. Laws did not administer the tests widely enough to ascertain the significant needs of parents as the subjects used in the study were limited to mothers in one locality who were enrolled in child study groups. Furthermore, the tests were not sufficiently diagnostic to serve adequately as a means for analyzing the needs of parents.

In a study to determine a satisfactory basis for curriculum construction in parent education, Ojemann (9) analyzed the nature and source of possible objectives. He concluded that such general objectives as the important life activities set forth by Bobbitt (1, pages 8-9), or the principles proposed by the Committee on the Reorganization of Secondary Education (3), were too inclusive to serve as satisfactory guides in selecting goals for parent education. Activities classified under such headings as "citizenship activities" and "parental activities" must be studied in more detail before they can be used successfully for purposes of curriculum construction.

Charters (3, page 11) classified the goals of education into ideals and activities, a classification which places emphasis on the overt character of behavior. According to Ojemann (9), this emphasis is satisfactory only with habitual acts essentially the same at each performance, since actions which involve more than a minimum of thinking vary from situation to situation. A list of activities to

cover all possible situations would be endless. More satisfactory objectives for selecting curricular materials are found in a psychological analysis of behavior. From such an analysis, it appears that the generalizations used in thinking, the attitudes underlying behavior, and habitual reactions upon which overt behavior is based are three important elements in behavior.

Expressing the needs of parents in psychological terms appears to be a desirable method for selecting content, since parents' practices and problems are symptoms rather than end results. A psychological analysis of such symptoms shows that certain desirable attitudes, knowledge, emotional patterns, or skills are not functioning in those phases of parental behavior which are most significant for the optimum development of the child. This method also gives some suggestions of the type of learning experiences which will tend to bring about a functioning of these important generalizations in child development. It is assumed to be an effective method for the purposes of this investigation.

This study is concerned specifically with the generalizations which should function in the intelligent behavior of parents of elementary school children. It may be considered as one in a series designed to furnish data which may be used in the selection of content for a program in parent education. The plan of the investigation involves the following steps:

1. Securing the opinion of competent judges as to the generalizations and attitudes regarding mental development, emotional development, social development, physical growth, use of money, sex education, and vocational guidance that should function in the thinking of parents of elementary school children.
2. Measuring the attitudes and information that parents have on these phases of child development.
3. Comparing the attitudes and information that parents possess with the generalizations which should function in their thinking. (This difference represents the needs of this group of parents in so far as generalizations are concerned.)

The assumption underlying the rating of the generalizations, the methods of constructing tests to determine attitudes and knowledge, the analysis of parents' responses, and the evaluation of the tests are discussed in following chapters.

CHAPTER II

SELECTION OF GENERALIZATIONS

It has already been indicated that a psychological analysis shows that the generalizations used in thinking, the attitudes underlying behavior, emotional patterns, skills, etc. are important components of behavior. Concerning the importance of generalizations in thinking, Judd (6, pages 417-418) says, "Trained intelligence is particular in its contents but general in its methods. It is characteristic of human thinking that wherever one encounters any phenomenon, one tends to interpret it in terms of general categories. . . . The human power of generalization is so intimately related to the evolution of language that the two cannot be thought of as existing separately. Words are records of generalization, and their use implies the power to apply to new experiences the established classifications expressed in language." Generalizations are, then, statements which summarize the common characteristics of a series of situations or ideas. They may represent factual material which cannot be generalized further, principles which are general truths or established modes of action, or hypotheses which are assumed principles.

In brief, generalizations are the tools used in thinking. In problems with complex and variable factors, the question of selecting a suitable procedure often becomes difficult. To decide if a child is getting sufficient exercise, a parent must develop criteria for judging optimum amount and kind of exercise, a process which involves the application of many generalizations pertaining to the physical and emotional development of children. Often a successful solution is impossible since necessary generalizations are not functioning in the parent's thinking. In view of these facts, it is important for parent educators to know what generalizations are most needed in the thinking of parents.

COMPILING THE GENERALIZATIONS

To secure an extensive list of the generalizations in the field of child development which are important in the thinking of parents

of elementary school children, research studies were assembled pertaining to social development, emotional development, use of money, sex education, mental development, physical growth, and vocational guidance. For convenience in organizing and utilizing the material, two workers analyzed each section into subsections of material logically belonging in one group. For example, all studies pertaining to the relation of the child's socio-economic status and intelligence comprised one subsection; studies of the effect of environment on mental growth made up another division; the development of sense perception another; etc. Since a large part of the field selected for this study is not covered by current research, the opinions of child psychologists, clinicians, and others dealing with children in a professional way were added to the research material. This material was analyzed similarly into appropriate subsections. For purposes of identification, each subsection was given a title and assigned a number belonging to its respective section. The section numbers are as follows:

Number	Section
400 to 499	Use of Money
500 to 599	Sex Education
600 to 699	Vocational Guidance
1200 to 1299	Mental Development
1600 to 1699	Emotional Development
1800 to 1899	Social Development
2000 to 2099	Physical Growth

The material in each subsection was summarized. If there were discrepancies in the conclusions of the different contributors, this difference of opinion was noted. Such generalizations as the material warranted were drawn from the summaries to form a list covering the seven sections of child development selected as the basis for this study. This method of compilation insured the most valid generalizations available at the time.¹

EVALUATING THE GENERALIZATIONS

The relative importance of a generalization depends, in the last analysis, upon the type of civilization which society wishes to perpetuate. What will be the ultimate method for the selection of generalizations regarding child development is a matter of conjecture. How far the experimental method can be used is not clear at present. An individual's estimate depends on his theory of knowledge. Pragmatists, such as Dewey, consider no other method. With due re-

¹The list is given in the manuscript copy of this study on file at the State University of Iowa library.

spect to the pragmatic point of view, the investigator considered it necessary for the purposes of this study to adopt another type of procedure. The method selected consists in obtaining a consensus of expert judgments. This method of evaluation is used in the field of social sciences where scientific methods are not available for testing all the hypotheses necessary for immediate action. The substantial agreement of a group which has made a special study of social interactions appears justifiable as a guide for action when it is the only means available for evaluation.

The evaluation of the importance of generalizations pertaining to child development by a consensus of expert judgments may be regarded as an intermediary procedure, but it is one which will probably continue for some time. The reason for this is that it is not known at present what constitutes ultimate optimum development in children, or what the important factors are in the relationship of parent to child and family to community agencies. Those who appear best qualified to judge are persons especially trained in the fields of child and adult psychology and parent education who are themselves producing relative optimum development in their own children. Such a group does not represent a narrow field, but combines varied and rich experiences to form a reservoir from which may be drawn intelligent and extensive judgments.

The consensus of expert judgments was chosen as the criterion of importance for generalizations in this study for several reasons:

1. Where scientific information has not been obtained, expert judgments may be used for the final test of value. As long as the relation of different factors in a situation is not known, a consensus of expert judgments is the best guide available.
2. The method is objective in so far as it does not represent the opinion of one person only. Thus, while it is not thoroughly objective, it tends to eliminate biased judgments which often color the estimates made by one individual.
3. The method is flexible. Judgments may be revised from time to time to give consideration to new knowledge as well as to new or changed activities of parents. An experimental determination of the importance of generalizations would act largely as a check on the present list.

Qualifications of Judges

Ten judges, chosen for their familiarity with the subject matter, with the activities of parents, and with adult psychology, evaluated the importance of the generalizations for parents of elementary school children. The experience of the judges was varied; all but two were parents in addition to their professional interest in parent education.

'They represent the viewpoint of parents whose children are approaching the elementary school period, those who have children in the elementary school, and those whose children have recently passed the age of twelve.

Personnel of Judges

1. Director of Iowa Child Welfare Research Station
2. Assistant professor of parent education research, State University of Iowa
3. Head of the Home Economics Department, State University of Iowa
4. State director of field work in parent education
5. State field worker in parent education
6. Teacher in elementary school with graduate training in parent education
7. Mother of children aged nineteen and twenty with parent education experience
8. Mother of children aged nine and eleven, graduate student in physical education
9. Mother of children aged eight and sixteen, research worker in parent education
10. Mother of children aged thirteen and sixteen, research worker in parent education

Directions for Judges

The following directions were given to the judges for use in rating the generalizations on three levels of importance for the behavior of parents of elementary school children.

Read the following generalizations to determine which you consider should be included in a parent education program for the fathers and mothers of elementary school children aged six to twelve years inclusive. The generalizations are grouped under these sections: sex education, physical growth, use of money, emotional development, social development, mental development, and vocational guidance. From your knowledge of socioeconomic principles, child development, and adult psychology, select those generalizations which express the underlying needs of this group of parents. A consideration of the questions that parents ask and the relative frequency or seriousness of various behavior problems may aid you in your decision. The generalizations which you consider essential (or highly important) check in column 1, those of doubtful value in column 2, and the non-essentials in column 3.

Further explanation is given below:

1. An essential generalization is one which you as a judge consider as indispensable for the satisfactory care and guidance of children.
2. Disregard the order of generalizations.
3. Disregard the time required for the course or the amount of elaboration needed.
4. This program is not intended to preclude further study following the interests of the parents.
5. Parents are to be considered as living under present social organization, but judges are to keep in mind future development.
6. Suggestions of other generalizations pertaining to a given section will be appreciated.
7. It is assumed that material in a unit applies to elementary school children unless otherwise indicated.
8. The level of generalization has not always been raised to the widest practical application.

9. Disregard the validity of the statements.

10. Summaries of the material in the units are available in case the generalizations do not furnish sufficient material for evaluation.

Interpretation of Ratings

In order to interpret the judges' ratings, scores were assigned. A rating of highest importance by a judge secured a score of 10 for the generalization; a rating of second importance, a score of 5; a rating of nonessential, a score of 0. Generalizations which received a score of 80 or above by the ten judges are regarded as highly important for parents. The material included in these generalizations is to be incorporated in a battery of attitude and knowledge tests. The purpose of the tests will be to determine knowledge of specific generalizations and knowledge as to what constitutes their intelligent application.

The score of 80 appears feasible, although it was selected arbitrarily as a demarcation line for the "important" generalizations. Since the list was derived from parent education materials, the distribution of the ranking of the judges is skewed somewhat toward "important" rather than distributed along a normal curve as would be the case in unselected material. Consequently, any generalization which received a score of less than the equivalent of an agreement of four-fifths of the judges was considered as falling in the class of doubtful importance for parents of elementary school children.

The comments written concerning various generalizations and the questions asked by the judges testified as to the interest and thoughtful consideration given to the material. No additional generalizations were suggested by the judges for any section.

Reliability of Ratings

The correlation of the ratings of five of the judges with the other five was $.77 \pm .01$. By applying the Spearman-Brown prophecy formula, a reliability of $.87 \pm .01$ was obtained for the ratings of ten judges. This reliability indicates that ten judges were probably sufficient. However, if a greater agreement is desired, a larger number of judges could be employed.

Elimination of Unimportant Generalizations

A summary of the number of generalizations eliminated in each section by the judges' ratings is given below:²

²The generalization ratings of the ten judges and the composite score for all generalizations are found in the manuscript copy on file at the State University of Iowa library.

Section	Generalizations	
	Submitted	Eliminated
Social development	35	7
Emotional development	95	62
Use of money	28	18
Sex education	27	14
Mental development	30	22
Vocational guidance	16	8
Physical growth	26	15
Total	257	148

The 148 generalizations eliminated are 57.6 per cent of the number submitted to the judges. It is of interest to note the emphasis given to various sections by the judges' ratings. Of the thirty-five units in social development, eight were eliminated; only eight of the thirty units in mental development were regarded as essential for parents of elementary school children. When marking generalizations as nonessential, the judges' comments included such reasons as:

- 1 Outside the interests of the parents
- 2 Obviously academic and only remotely involved in parental function
3. Appropriate for earlier years only
- 4 Overlapping in the generalizations
5. Field not sufficiently well developed

CHAPTER III

CONSTRUCTION OF TESTS

Although objective tests have only recently been used in curriculum research, they have acquired a recognized place in the field. Burch (2) has demonstrated the possibilities of using objective tests as a method for determining content. She devised silent reading comprehension tests to use in selecting content for literature courses of suitable difficulty for junior and senior high school students.

Objective tests furnish a method for determining what important generalizations pertaining to child development are functioning in the thinking of parents. When properly constructed, they permit a wide sampling of material with a minimum expenditure of the parent's time. Such tests may be scored quickly and definitely. The definiteness of scoring makes it possible to compare individuals within a group. Such tests may be used with parent study groups to guide the selection of learning experiences and to measure progress of the individual learners. They may also furnish opportunity for parents to evaluate their own knowledge and attitudes due to the fact that the tests may be self-administered and scored by means of a key.

DIFFERENTIATING ATTITUDES AND KNOWLEDGE TESTS

To determine the attitudes and information on child development possessed by parents of elementary school children, a battery of tests has been constructed which covers the generalizations rated by the judges as highly important for these parents. The tests are of two types, one designated as attitude tests and the other as knowledge tests.

The term attitude in this study is used synonymously with opinion. This use of the term is defined by Thurstone (14, page 7). "The concept 'opinion' will here mean a verbal expression of attitude. If a man said that we made a mistake in entering the war against Germany, that statement would be called his opinion. The term 'opinion' will be restricted to verbal expression. But it is an ex-

pression of what? It expresses an attitude, supposedly. There should be no difficulty in understanding the use of the two terms. The verbal expression is the *opinion*. Our interpretation of such an expressed opinion would be that the man's *attitude* is pro-German. An opinion symbolizes an attitude."

Opinion is commonly defined as a conclusion or judgment held in confidence, but falling short of positive knowledge. Knowledge and opinion are, in reality, supplementary. Sharp lines of distinction cannot be drawn between attitude and knowledge tests as they are interdependent. In some cases, the generalizations were such that, in the writer's judgment, they could be better represented by attitude tests. In other cases where the relationships were fairly definite, knowledge tests were used. In this study tests constructed on a definite continuum are designated as attitude tests. The others, designed primarily to determine the ability with which parents are able to apply certain generalizations, are called knowledge tests.

It may be well to mention the limits of this study. No attempt is made to measure the emotional concomitants of actions. The tests are confined to verbal responses regardless of the feelings that may be aroused within the individual. They are not intended to measure the practices of parents. In reply to those who feel that practices are the best indicators of attitudes, it may be pointed out that there is a possibility that a practice may represent a distortion of the parents' true attitude, or that important attitudes may not be revealed because of lack of opportunity to practice them.

What an individual does is dependent upon many factors—knowledge, attitude, skills, and emotional patterns. To predict practices it appears that all of these must be known. This study is concerned with parents' needs in so far as knowledge and attitudes are concerned, but similar studies may be made of needs in skills and emotional and personality patterns.

SELECTING TEST TYPES AND ITEMS

A variety of types were used in constructing this battery of tests, as no one type seemed adequate to secure the desired information. The Thurstone (14) technique is advantageous in that it yields data which may be treated with refined statistical methods. It has the disadvantages of measuring a very narrow range and requires the services of many people to construct. The knowledge tests have the

advantages of covering a wider sampling of generalizations and taking less time to construct. Moreover, when analyzed item by item, the knowledge tests permit a diagnostic survey of parents' responses. However, they have the disadvantage of inaccurate scoring, resulting from the fact that the value of each step is not known. Hence, a summary score of the tests is inaccurate.

The types of tests used in this study include:

1. Knowledge tests
 - a. Multiple choice
 - (1) With situations
 - (2) Without situations
 - b. Affirmative or negative reply
2. Attitude tests
 - a. Thurstone (14) "equally appearing interval" technique
 - b. Allport's (5) *a priori* form

Knowledge Tests of Multiple Choice Type

In the multiple choice type of tests the subject is asked to check one or more possible answers. The highest reliability for a test of this type (11, page 286) has been found with from four to seven possible answers.

Multiple Choice Tests with Situations.—This method of test construction is especially well adapted to judging the extent to which certain generalizations are operative in the thinking of parents. An interesting situation tends to direct the questioning away from the parent and his child. It also makes it possible to compare answers of parents because the situation is the same for all. This type of test was used to measure the understanding of generalizations relative to the treatment of inferiority, disregard of property rights, untruthfulness, and lack of emotional control in children.

The first step in building these tests was to find situations which would have a wide interest. Selections were made within the experience of the average parent, excluding absurd and extreme cases. They were stated briefly in generalized forms; specific names were used to add interest to the test. The situations dealing with inferiority in children describe a girl who feels inferior to her brothers, one who feels inferior to older sisters because she does not have the abilities which they have, and another girl who is unpopular because she is homely. Incidents in regard to teaching property rights are concerned with a boy who took money from his father's cash register to buy firecrackers, one who collected pencils from the school

desks, and another who has repeatedly taken articles of value. The types of untruthfulness described include two examples of telling untruths to escape punishment, an imaginative untruth, the use of the "conventional white lie," and the imitation of an adult example of untruthfulness. The problems in emotional control deal with the treatment of excessive crying, stubbornness, fear, anger, and sulkiness in children. To avoid making the description of situations unnecessarily long and yet to include the important factors, the situation was briefly described and the subject asked to assume that other factors were comparable to what is found in average conditions.

The next step in constructing the test was to select specific items representing possible procedures for treating the situations described. The source material from which the generalizations were drawn was used as suggestive material for constructing the items representing procedures which the parents were to evaluate in a given situation.

To make sure that the items were applications of specific procedures, they were given to a group of judges for classification according to the procedure which they represented. The procedures and directions given to the judges for classifying the test items may be found in the Appendix (pp. 359-360). The tabulations of the judges' ratings, which show the frequency with which parents were asked to evaluate specific procedures, are also found in Chapter V.

A criticism which is often offered against the use of multiple choice tests is the possibility that the pupil may make a successful response merely on the basis of grammatical consistency or synonymous phrasing between the body of the test and the correct item. In order to eliminate as much as possible such chance and spurious successes in the marking of these tests, the parents were asked to rate each item as a poor, fair, or good procedure to use in the situation described. The directions stated that the methods suggested were not intended as solutions to the difficulties, but were to be judged according to their possibilities for constructive help. To minimize tendencies to mark items "good" because there was a column marked "good," the applications of good and poor procedures were divided unequally between situations describing similar difficulties. Repetition of the use of a procedure gave a further check on the apparent functioning of certain generalizations, as it would be unlikely that a parent could consistently mark procedures correct by chance.

The situation type of multiple choice was also used to determine

parents' ability to apply generalizations concerning answers to children's sex questions, teaching habits of saving, and safeguarding children from communicable diseases. In each case, the items were constructed to give parents an opportunity to apply pertinent generalizations. In two of the tests the parents were asked to rate the items as good, fair, or poor procedures. In the other test they were requested to check the procedures of which they approved. In the case of test items in sex education, the situation was used to make the questions as impersonal as possible; in the other tests it was used merely for variation and interest. Copies of tests are found in Appendix (pp. 360-364; 367; 370; 372-376).

Multiple Choice Tests Without Situations.—This is a simpler form of the multiple choice type of test in that the test items are not accompanied by a description of a specific situation. It is used in this study to determine the ability of the parents to apply generalizations relative to (1) the use of caution as opposed to fear in teaching children to control dangerous factors in their environment, (2) the procedures which help a child to adjust to the group, (3) the essentials of a desirable health program for elementary school children, and (4) methods of teaching children good judgment in handling money. Copies of these tests may be found in the Appendix (pp. 366-368; 370-371; 376-378).

Knowledge Tests with Affirmative or Negative Reply

In this type of procedure questions are asked which call merely for an affirmative or negative reply. Its usefulness is limited by the fact that the questions may not be equal in their discriminative value, and hence difficult to score. It was used in this study to determine the degree to which parents were willing to help their child enter the vocation of his choice. Subtests for one item were constructed to show how it is possible to factor out the reasons for the parents' reactions, and thus study more fully the ability of parents to apply specific generalizations. The tests used are given in the Appendix (pp. 378-380).

Thurstone's Form of Attitude Test

Thurstone's (14) method adapts psychophysical methods to the measurement of attitudes. Essentially it is the allocation of an individual on a linear attitude continuum according to the opinion he accepts or rejects. The first step in the construction of the scale is the selection of the attitude variable. This is stated in such a

way that it can be spoken of in terms of more or less. Opinions are then collected which range from maximum support to extreme rejection of the matter involved. Next a large group of people sort these statements of opinions into eleven piles. In the first pile they place statements which reflect maximum acceptance and in the last pile those which entirely reject the matter in question. In the middle is the neutral zone. Other steps are given the statements expressing attitudes between these limits in accordance with the degree of acceptance they reflect. The scale value of each opinion is the median step value of all the placements and is determined graphically. The interquartile range of judges' placements gives for each statement the Q value, which is used to measure the ambiguity of the statement. Statements with a wide distribution have a large Q value and are eliminated.

In the battery of tests given to parents, this technique was used for measuring their attitude toward giving sex information, using fear as a means of control, and the degree of tolerance of lies in older children. The statements for each of these scales as classified by the judges may be found in the Appendix (pp. 364-366; 368-369; 375). The numbers serve as a means of identifying the statements in the tabulation which follows. This tabulation shows the step and Q value of each statement regarding the desirability of using fear as a means of controlling the behavior of children as calculated from the placements of sixty judges.

Number	Step Value	Q Value
1	3.5	1.3
2	2.9	1.2
3	3.2	1.6
5	.3	.6
6	2.6	1.3
7	3.1	1.6
8	5.6	.6
9	1.2	1.0
10	9.0	1.7
11	1.9	1.3
12	9.2	1.5
13	10.0	1.4
14	3.2	2.0
15	.5	1.0
16	10.3	.6
17	2.2	1.9
18	5.5	1.1
19	1.9	1.7
20	2.6	2.0
21	7.9	1.4
22	6.7	1.8
23	7.0	1.6

Number	Step Value	Q Value
24	5.0	1.8
25	5.2	2.2
26	8.6	1.3
27	7.0	1.8
28	8.4	1.1
29	8.8	1.6
30	4.2	1.3
31	10.2	1.6
32	4.0	1.3
33	10.1	1.4

The different readers placed statements which were very ambiguous over a wide range on the scale, and the Q value was correspondingly high. In this scale test items which had a Q value over 2.0 were regarded as ambiguous. When such statements were eliminated, the scale appeared as follows:



The score value, as obtained by extrapolation, was less than 1.0 for statements which more than half the readers placed in the first of the eleven piles. A perfect scale would have a statement representing each tenth of a step. Here each step is represented in the scale, but not all points.

An approximate estimate of the reliability of the scale values was obtained in the following manner (14, page 42).

The average Q value of the opinions is 1.25.

$$q = \frac{Q}{2} = .63$$

$$\sigma \text{ dist} = \frac{q}{.6745} = .93$$

$$\sigma_{md} = 1.25 \frac{\sigma}{\sqrt{N}}$$

$$= 1.2 \text{ when } N = 60$$

$$P.E._{md} = 0.67 \times 1.2$$

$$= .80 \text{ scale units}$$

This is satisfactory reliability for the scale values which are recorded to one decimal.

The following step and Q values were assigned to each statement concerning the desirability of parents giving sex information to children between the ages of six and twelve. The values were determined by the location assigned the statements on the continuum by fifty-five judges.

Number	Step Value	Q Value
1	1.9	1.6
2	2.1	1.4
3	7.5	1.8
4	8.7	1.2
5	9.5	1.0
6	6.6	2.8
7	8.1	2.1
8	3.9	2.0
9	7.0	1.6
10	4.7	1.8
11	4.4	1.8
12	3.3	2.1
13	1.6	1.8
14	6.0	2.0
15	7.0	2.5
16	10.5	.5
17	5.6	.6
18	7.4	1.4
19	10.3	1.0
20	.6	.3
21	4.0	2.6
22	7.8	1.3
23	9.7	1.2
24	2.4	1.8
25	5.1	3.6
26	9.0	2.0
27	2.2	2.5
28	2.9	2.2
29	.6	.3
30	1.2	.6
31	1.6	1.7
32	1.4	.6

In this scale statements which have a Q value over 2.0 were regarded as highly ambiguous and consequently were removed. The scale appears as indicated by the bars in the following diagram.



An approximate estimate of the reliability of the scale values was obtained as follows (14, page 42):

The average Q value of opinions in the scale is 1.30. Consequently

$$q = \frac{Q}{2} = 0.65$$

The standard deviation of the distribution of scale values is, therefore, on the average:

$$\sigma_{\text{dist}} = \frac{q}{.6745} = .96$$

$$\sigma_{\text{md}} = 1.25 \frac{\sigma}{\sqrt{N}}$$

$$= 1.2 \text{ when } N = 55$$

$$\text{P.E.}_{\text{md}} = .67 \times 1.2 = .80$$

From the ratings of twenty judges on the statements regarding the desirability of tolerance toward older children telling lies, the following median scores and degrees of ambiguity were obtained:

Number	Step Value	Q Value
1	10.1	.8
2	10.4	1.0
3	.7	1.1
4	5.6	1.9
5	1.4	1.0
6	2.0	.7
7	6.7	1.7
8	4.3	1.4
9	7.3	.9

Allport a priori Form

The Allport *a priori* technique is explained in the Syracuse Reaction Study (7, pages 368-369). "The statements can be worded in such a fashion as to fall on a logical scale with reference, for example, to graduations in meaning upon a given variable. It is true that, in its purely *a priori* form, we do not know whether there are equal intervals between two adjoining statements of such a scale. We can, however, be reasonably certain that the steps are in the correct order. For some purposes this type of crude logical continuum, which is readily constructed, has distinct advantages. With somewhat more labor it can be developed into a true scale by the use of Thurstone's psychophysical technique, while still keeping it as a logical rather than an affective continuum.

"There arise occasions upon which we wish to know not only the degree or scale value of an individual's attitude, but its nature or content as a practical judgment or mode of adjustment which the subject would be likely to adopt in a particular situation. . . . We may say that our *a priori* scale, if scale it can be called, is not a continuum reflecting a single underlying attitude variable, but a series of *discrete attitudes* logically related to one another. These attitudes are not projected onto a psychophysical continuum, but only related telically in that they are successive acts of practical adjustment that an individual would be likely to perform if headed in his overt behavior or thinking toward one of the termini of the scale."

This form of attitude test was used to determine the freedom of choice that the child should have in the selection of his playmates, and the tolerance that parents should have for children's untruths. Copies of these tests are given in the Appendix (pp. 371; 375).

A variation of Allport's *a priori* technique was used in this study to determine the parents' opinion regarding self-reliance in children. Each item in the test describes an act which elementary school children may be taught to perform without adult help. Ten judges were asked to state the age of accomplishment which they considered unfavorable for the development of self-reliance in children for each of the acts. They also stated the age which they considered was favorable to self-reliance and one which was neutral. The median ages, as computed from the judges' ratings, representing favorable, unfavorable, and neutral attitudes were selected for the extremes and for the center or neutral point of a scale for each of the statements. The age range between these points was divided equally into five steps. This gave an eleven point scale to judge the age supplied by a parent for the performance of each act as favorable or unfavorable to the development of self-reliance in children. Details of the scale may be found in the Appendix (pp. 371-372).

PREPARING SCORING KEY

A group of judges was given the attitude scales and asked to mark what they considered an intelligent attitude on the part of parents of elementary school children. The average score of the judges furnished the basis for evaluating the desirability of the attitudes expressed by the parents. The knowledge tests were also given to judges making it possible to check any ambiguities in the statement of the items and to evaluate the appropriateness of the use of specific methods in a given situation. Thus, the judges' markings determined a standard for scoring parents' responses to the test items.

The scoring key established by the judges' markings of the knowledge tests indicates only the desirable response. No attempt has been made to weight parents' deviations from the approved response. They are considered as either plus or minus according to their agreement or lack of agreement. The key is found in the Appendix (pp. 360-364; 366-368; 370-380).

This key must be accepted in light of what constitutes valid knowledge today. It is possible that as knowledge increases responses which are considered as "good" will be subject to modification. The multiple choice tests with situations offer opportunity for degrees of revision as responses may be judged good, fair, or poor rather than right or wrong. Since the attitude tests cover a continuum from one

extreme to another, they may be reevaluated as changes occur in our knowledge, and the desirable attitude relocated on the scale. This type of scoring device takes into consideration the fact that knowledge is a matter of degree.

CHAPTER IV

ADMINISTRATION OF TESTS

Responses to the tests described in Chapter III were secured from several hundred parents of elementary school children. The subjects were obtained through the coöperation of public schools, parent-teacher associations, child study groups, and personal visits to homes. Although strictly random sampling techniques were not employed to secure the subjects, the sampling appears free from bias. It consists of a very heterogeneous group which is probably not unlike a representative sampling of the parents of elementary school children living in Iowa.

PERSONNEL OF THE SUBJECTS

A total of 771 parents were used as subjects in this investigation. One hundred sixty-nine fathers and 221 mothers marked Battery 1. One hundred sixty fathers and 221 mothers marked Battery 2. These subjects were obtained from widely separated parts of Iowa, from rural communities and from towns ranging in population from 271 to 142,000.

Occupations

The subjects represent all walks of life. When classified by occupation, the group percentages were distributed as follows:

Occupation	Fathers Battery		Husbands	
	1	2	1	2
Professional	10.0	8.3	10.4	9.0
Semi-professional	4.1	3.0	4.5	3.2
Clerical and skilled	36.1	36.1	34.8	41.2
Semi-skilled and minor clerical	33.1	30.2	29.9	28.1
Slightly skilled	5.9	4.7	4.5	5.0
Unskilled	10.7	4.7	6.7	4.5

Education

The subjects were classified roughly according to whether their education was completed in the elementary school, high school, or college. The tabulation below shows the distribution by per cents:

Educational Status	Fathers Battery		Mothers	
	1	2	1	2
Elementary school	44.4	37.3	34.8	24.4
High school	33.7	33.7	35.7	52.5
College	16.6	15.9	26.7	19.0

Size of Family

The number of children in the families represented ranged from one to twelve. The percentage distribution was as follows:

Children	Fathers		Mothers	
	Battery			
	1	2	1	2
1	14.8	20.1	15.8	20.8
2 to 3	62.1	50.3	60.2	57.0
4 or more	23.0	21.3	24.0	19.5

Age of Children

The age range for the children of the subjects was from one month to thirty-four years. The percentage distribution is shown in the tabulation below:

Children	Fathers		Mothers	
	Battery			
	1	2	1	2
Below age 5				
0	57.0	55.0	64.2	61.0
1	34.3	28.4	28.5	29.0
2 to 3	7.1	8.9	6.3	9.0
Age 6 to 12				
1	54.6	52.0	42.5	39.8
2 to 3	40.2	40.2	30.8	30.8
4 or more	2.7	2.3	1.8	1.8
Above age 12				
0	58.6	64.5	53.4	18.0
1	21.3	11.2	22.6	15.4
2 or 3	15.4	12.4	18.0	14.0
4 or more	4.1	4.7	5.4	5.4

ORAL PRESENTATION

Test blanks were read to fifteen parents with elementary school education or less, and the responses recorded by the investigator. This procedure afforded an opportunity to check the difficulty of the vocabulary used in the tests, and also the subjects' comprehension and interpretation of the various items. Furthermore, the procedure furnished an additional means for judging the reliability of the tests. Obviously, a test which uses diction beyond the comprehension of the average parent is not an adequate measuring instrument of his knowledge and attitude.

INTERVIEW METHOD

Since it is not always possible to secure the cooperation of both parents, or for some reason it is not advisable to ask a parent to mark the test blank, the possibilities of interviewing parents and

then marking the tests according to the attitudes and knowledge they revealed were investigated. To determine the reliability of such a procedure, two workers interviewed the parents and discussed pertinent practices and attitudes with them. Immediately after the interview the workers independently marked the attitude and knowledge tests according to the parents' responses in the interview. Of a total of 459 items marked in this manner, the two workers agreed on the marking of 414 items, or 90.1 per cent. Since this agreement was obtained without previous practice on the part of the workers, it appears that the procedure is not a difficult one to employ.

Although very time consuming, the interview method suggests a possible alternate for the case study type of interview which is frequently used by clinicians, visiting teachers, and other professional workers. It offers the distinct advantage of recording widely varied attitudes and knowledge of child development on a regulation form which tends to give more comprehensive records for comparing the subjects' responses at succeeding interviews. The reliability of the interview method could be studied especially in the case of carefully constructed attitude scales.

CHAPTER V

RESULTS

Test responses were secured from the 771 subjects. The statements endorsed by the parents on the attitude scales were compared with the opinions of the judges. The knowledge tests were scored according to the key established by the judges' ratings. If the subject's response agreed with the judges, it was marked "plus." An analysis of the group's response was then made item by item. This method of analysis was chosen because the data will be used to show the extent to which definite generalizations were functioning in the thinking of the group, rather than the results of individual performances on the tests.

To be a good measuring device a test must possess certain characteristics and meet specific criteria. Ruch (10) lists the following five criteria: validity, reliability, objectivity, ease of administration and scoring, and standards.

Responses of the parents to the test items will be used to show how well this battery of tests meets these criteria.

VALIDITY

Validity, as it is used here, refers to that characteristic which indicates that the test measures what it purports to measure. How valid are these tests as a measure of parents' attitudes and knowledge regarding child development? The fact that only material from generalizations rated as highly important for the functional thinking of parents were included in the test insured the elimination of non-significant and unessential materials. This use of expert judgment is assumed in this study to be a good method of validation, as the validity or "worthwhileness" of a test depends on the inclusion of significant and essential material in the test items.

Another method of validation is the computation of the percentage of approved responses at different levels of ability. This is used in this study by comparing the parents' responses on the multiple choice items to the approved responses. It was possible to apply

this method because the scoring key itself represents the consensus of the responses of a highly trained group. No parent marked correctly more than 82 per cent of the multiple choice items on Battery 1; the average correct response was only 50 per cent. The highest percentage of correct response for any subject taking Battery 2 was 83 per cent with a group average of 61 per cent.

The validity of the attitude tests in this study have not been determined, but the high reliability of the scale values obtained for attitude tests constructed by psychophysical technique may be considered, to some extent, an indication of validity.

While the validity of this battery of tests cannot be stated in quantitative terms, the following factors may be regarded as an inferential basis for judging roughly the validity of the tests, the method used for selecting the test items, the agreement of the experts as to the approved response of each item, and the methods used to eliminate factors which contribute to unreliability in tests.

RELIABILITY

The next criterion to consider for these tests is their reliability, or how reliably they measure parent attitudes and knowledge regarding child development. The tests were constructed with the aim of eliminating as much unreliability as possible. Items which were ambiguous or poorly stated were revealed by disagreements in the judges' markings and comments, and were removed from the test. Oral presentation of the tests to selected subjects gave an indication of the difficulty of the vocabulary and the comprehension of the test items. The comprehension of the items was also indicated by the many written comments found on the blanks which had been self-administered by the subjects. Other techniques employed to contribute to the reliability of the tests were (1) a wide sampling of material, (2) scoring the tests by items rather than by larger sections, and (3) providing, to a great extent, for objectivity in the scoring.

Statistical Determination

The reliability coefficient was determined for the multiple choice items in Battery 1 and Battery 2. The approved responses of the parent on the even numbered items were added separately from those on the odd numbered items. In each the correlation of the two halves

of the tests was obtained by the Pearson product moment of correlation.

With Battery 1 the coefficient of correlation was found to be $.86 \pm .01$ between the halves of the test. The reliability of the test as a whole, obtained by the Spearman-Brown prophecy formula, was $.92 \pm .01$. The coefficient of correlation between the halves of tests in Battery 2 was $.85 \pm .01$. By the application of the Spearman-Brown prophecy formula the coefficient of reliability for the whole test was $.91 \pm .01$. These correlations are fairly high and indicate that the tests are sufficiently adequate for the purposes of measurement.

No statistical determination was made of the reliability of the Allport *a priori* form of the attitude tests or for those requiring affirmative or negative reply. Such tests may be regarded as intermediary steps which may be refined later.

The reliability of the attitude tests devised by the Thurstone technique was given in Chapter III. The probable error of the scale value was .09 of a scale unit. This is satisfactory for scale values recorded to one decimal.

OTHER CRITERIA

Other criteria of a good test included objectivity and the ease of administration and scoring. By objectivity is meant the degree to which personal judgment is eliminated in scoring the answers. The key of approved responses which was obtained by securing the consensus of a group of trained people eliminated as far as possible subjective factors in scoring the tests. The tests may be administered in a very short period of the parent's time as they require no writing.

The last criterion, standards, are not of primary interest for these tests. If the important generalizations are functioning in the parent's thinking, the result would be theoretically a perfect score.

ANALYSIS OF RESPONSES

The failure of a parent to make an approved response to a test item indicates that either knowledge of or ability to apply a certain generalization is not operating in the thinking of that parent. An analysis has been made of the responses of the entire group to show trends in the needs of parents of elementary school children in so far as generalizations are concerned. If the tests are to be used for instructional purposes, the emphasis should be placed on the responses

of the individual subject so that learning experiences may be adapted to his particular needs.

No item in the entire group of tests received the approved response from every subject to whom the test was administered. Neither did any item fail to receive the approved response from at least a small percentage of the parents. The average approved responses for the multiple choice items in Battery 1 was 50 per cent; for Battery 2, the corresponding percentage was 61.

An analysis of the approved responses which parents gave to the tests indicates their success in applying generalizations in the seven fields of child development selected for study. The percentages of parents who gave approved responses in each field of study are given in the remaining sections of this chapter. (The item numbers used in the following series of tabulations refer to the corresponding test items on pages 360-380 of the Appendix.)

Social Development

It is generally recognized that a child has to learn to adjust to the social phases of his environment, and that the family has an extensive influence in teaching this adjustment to the child. How well are parents equipped to give children the necessary help? The following data reveal many needs of the subjects in regard to either a knowledge of generalizations pertaining to social development of children between the ages of six and twelve or the ability to apply them.

Aiding Children's Social Adjustment.—The following tabulation shows that most of the subjects recognize the fact that children must have training to be able to adjust socially since the ability is not instinctive. About three-fourths of the parents recognize that a feeling of superiority to other children does not help a child to adjust socially, but strict discipline is regarded as a more effective aid to social adjustment than a feeling of security in the home. The percentage of fathers and mothers giving approved responses for each item is:

Items	Mothers	Fathers
1	61.1	64.5
2	69.7	65.1
3	70.1	60.4
4	20.4	14.2
5	74.3	74.6
6	29.0	24.2

Items	Mothers	Fathers
7	48.0	41.4
8	28.5	24.9
9	27.1	29.0
10	66.5	60.4
11	73.8	61.5
12	81.0	75.7
13	31.2	30.1

Parental Responsibility for Children's Social Adjustment.—Parent educators feel that gangs are helpful under ordinary conditions in teaching children social adjustment and that, while a balance in gregariousness is important, the control should be indirect rather than direct. From the following tabulation it appears that approximately one-third of the parents feel a responsibility to keep their child from joining a gang. One-fourth of the parents also believe that selecting a child's activity for him will aid his social adjustment; even a larger number fail to recognize their responsibility for developing a child's natural ability. In fact, demanding obedience and having the child perform frequently in public appear to be greater responsibilities than preventing overstimulation in children. Fortunately, in most cases parents are not willing to encourage their child "to have his own way at all costs."

The percentage of parents giving the approved response to the items in this test is shown in the following tabulation:

Items	Mothers	Fathers
1	80.0	71.9
2	59.3	54.4
3	29.0	26.9
4	30.8	27.5
5	76.5	74.4
6	74.2	66.9
7	67.0	68.1
8	71.0	69.4
9	62.9	63.8
10	48.9	49.4
11	46.0	43.8
12	94.6	96.9

Freedom in Choice of Companions.—The opinion of the judges and the percentage of parents who endorse statements regarding the desirability of children's freedom in selecting play companions are shown in Figure 1. The parents vary widely in the amount of freedom which they are willing to endorse. Only 27 per cent of the fathers and 24 per cent of the mothers agree with the attitude selected by the judges as desirable. The majority of parents in this study believe that it is desirable to restrict their children in choice of com-

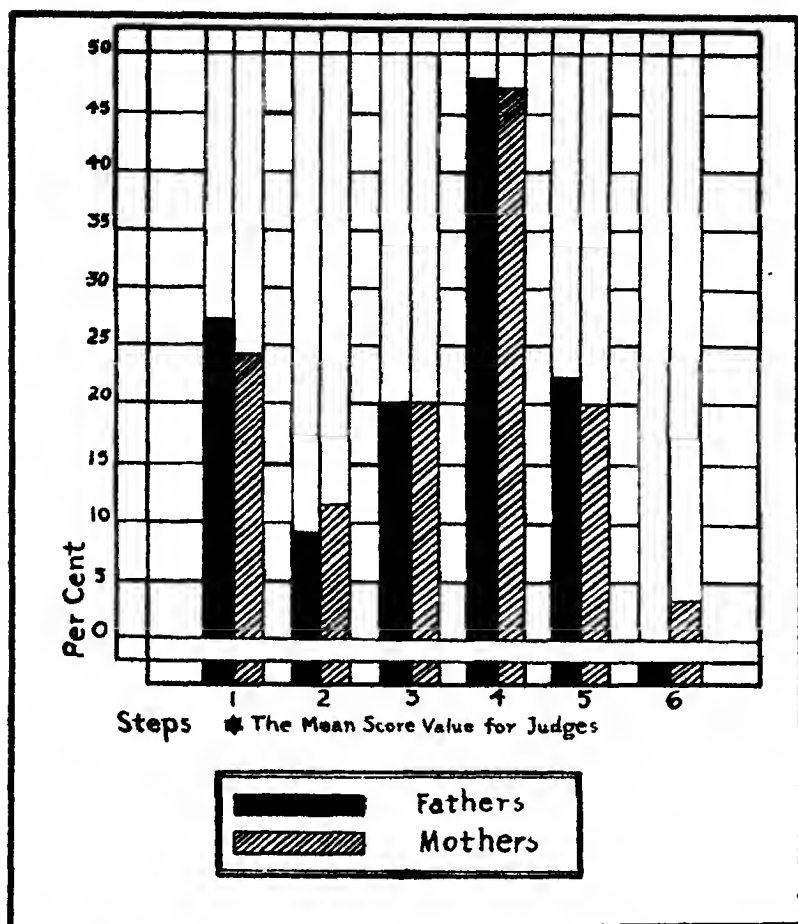


Figure 1. Percentage Distribution of Parents' Opinions Regarding Children's Freedom in Choice of Companions

panions. This indicates a failure on the part of parents to recognize some of the important principles in the social development of children.

Self-Reliance.—The mean score and standard deviation for each item in the self-reliance test were computed from the responses of the fathers and mothers and are given in the tabulation below. Since a score of less than 6 indicates an unfavorable attitude, it appears that neither fathers nor mothers favored self-reliance. The only items which received an average score of over 6 are responsibility for the home and younger children, buying all clothing, care of the hair, responsibility for getting to school on time, and participation in extra-

curricular activities. This attitude of unfavorableness is not true of individual parents. The standard deviations are large, indicating a high degree of variability in the group. The individual scores ranged from 0 to 11.

Items	Mothers		Fathers	
	Mean	S.D.	Mean	S.D.
1	2.5	3.4	2.3	3.7
2	8.0	3.7	7.7	3.9
3	7.4	3.5	7.6	1.9
4	5.1	3.1	4.7	3.4
5	6.5	3.9	5.7	3.4
6	4.0	3.0	3.5	5.6
7	7.1	3.1	7.1	3.1
8	4.6	3.8	5.0	4.1
9	1.9	3.0	1.7	3.0
10	7.0	1.6	7.8	3.7
11	3.4	3.8	3.1	2.6
12	5.4	3.7	6.3	4.1
13	2.7	2.7	2.4	2.7
14	5.6	4.3	5.2	4.0

Problems Relating to Teaching Truthfulness to Children.—Teaching truthfulness to children is a problem common to all parents. The ultimate aim may be regarded as building up desirable standards within the child and self-regulation in carrying them out. The following percentage tabulation of the parents' approved responses to test items dealing with teaching truthfulness indicates that the parents were unable to apply the necessary generalizations.

Items	Mothers	Fathers
1	88.7	87.6
2	51.6	44.4
3	46.6	45.0
4	75.6	65.1
5	81.5	81.1
6	85.1	80.5
7	70.1	66.9
8	17.8	17.8
9	33.9	33.7
10	80.5	74.6
11	78.7	74.6
12	77.8	75.2
13	90.5	86.6
14	28.1	23.7
15	23.5	27.8
16	82.8	79.9
17	62.4	65.7
18	60.6	53.3
19	15.3	18.3
20	84.6	81.1
21	35.3	26.6
22	57.5	46.8
23	3.6	8.3
24	64.7	65.1
25	84.6	84.0

It appears that, on the average, parents have a better understanding of the application of generalizations pertaining to untruths which arise from a desire to escape punishment than for other forms. Most of the parents recognize the importance of parental example of truthfulness. They fail in their judgments of procedures which give constructive help to young children. Approximately one-third of the parents considered that it was constructive help to a six-year-old child who had repeated an imaginary story to tell her "that nice little girls don't tell fibs." One-fifth of the subjects did not think it a poor procedure to tell a six-year-old child that "you do not love her any more because she has told a lie."

Apparently, many parents failed to realize the advantages that might come in learning social adjustment through participation, for less than one-fifth of the parents felt that it was a poor procedure to tell the six-year-old she couldn't go to any more parties if she couldn't be polite and give her hostess a conventional compliment. Eighty-five per cent of the parents regard washing the child's mouth with soap as a poor procedure in teaching truthfulness.

Ability to apply constructive procedures in teaching truthfulness varied widely with individual parents. One father said, "If you whip them the first time, you won't be bothered again." The following tabulation shows the percentages of parental successes in using the constructive procedures in varying situations.

Procedure	Application of Procedure		
	1	2	3
Treating cause of lie rather than lie	81.2	56.9	83.0
Providing parental example	48.5	68.7	77.7
	24.5*	25.7*	
Increasing child's experience and giving training in observation, etc.	52.1		
Giving child understandable and adequate explanation	16.7	5.6	

*Where providing parental example is only a fair procedure.

The critical ratio between the percentages of the parents' successes in applying constructive procedures shows great inconsistency, as the procedures are not employed with the same degree of success in varying situations.

Procedure	Application of Procedure		
	1 and 2	1 and 3	2 and 3
Treating cause of lie rather than lie	12.2	.9	13.5
Providing parental example	10.1	14.6	4.5
	.6*		
Giving child understandable and adequate explanation	5.6		

*Where providing parental example is only a fair procedure.

All numbers over 4 indicate that there is a significant difference in the percentage of approved responses. Such inconsistencies in responses indicate that pertinent generalizations are not functioning adequately in the thinking of this group.

Tolerance for Untruths in Children.—Figure 2 shows the mean opinion of the judges and the percentage distribution of parents' opinions regarding the tolerance that they should feel toward untruths in children. Thirty-seven per cent of the mothers and 33 per cent of the fathers were more intolerant of children's untruths than the group of judges who marked the attitude scale. Extremes of opinion are not considered desirable; the approved attitude is tolerance with understanding.

Tolerance Towards Older Children's Lies.—The percentage distribution of the parents who endorsed each statement in the scale regarding the desirability of tolerance toward lying in older children, and the mean of the judges' markings are found in Figure 3.

The mean of judges' opinions falls on 6.2. It can be said that parents who endorsed statements at either end of the scale are expressing a degree of tolerance or intolerance which is considered undesirable by people trained in the field of parent education.

Problems Relating to Children's Disregard of Property Rights.—There is a wide variation in the ability of parents to apply generalizations relating to both constructive and negative procedures in teaching children property rights. The following tabulation shows the percentage of successes for each item:

Items	Mothers	Fathers
1	77.4	76.9
2	21.7	20.7
3	18.6	18.3
4	17.7	17.8
5	67.4	68.0
6	77.8	75.2
7	37.1	23.7
8	37.5	32.5
9	38.0	32.5
10	90.5	87.6
11	56.9	60.4
12	80.1	76.1
13	74.6	75.1
14	73.6	77.5
15	86.4	74.0
16	47.1	39.6
17	70.1	61.0
18	85.6	79.3

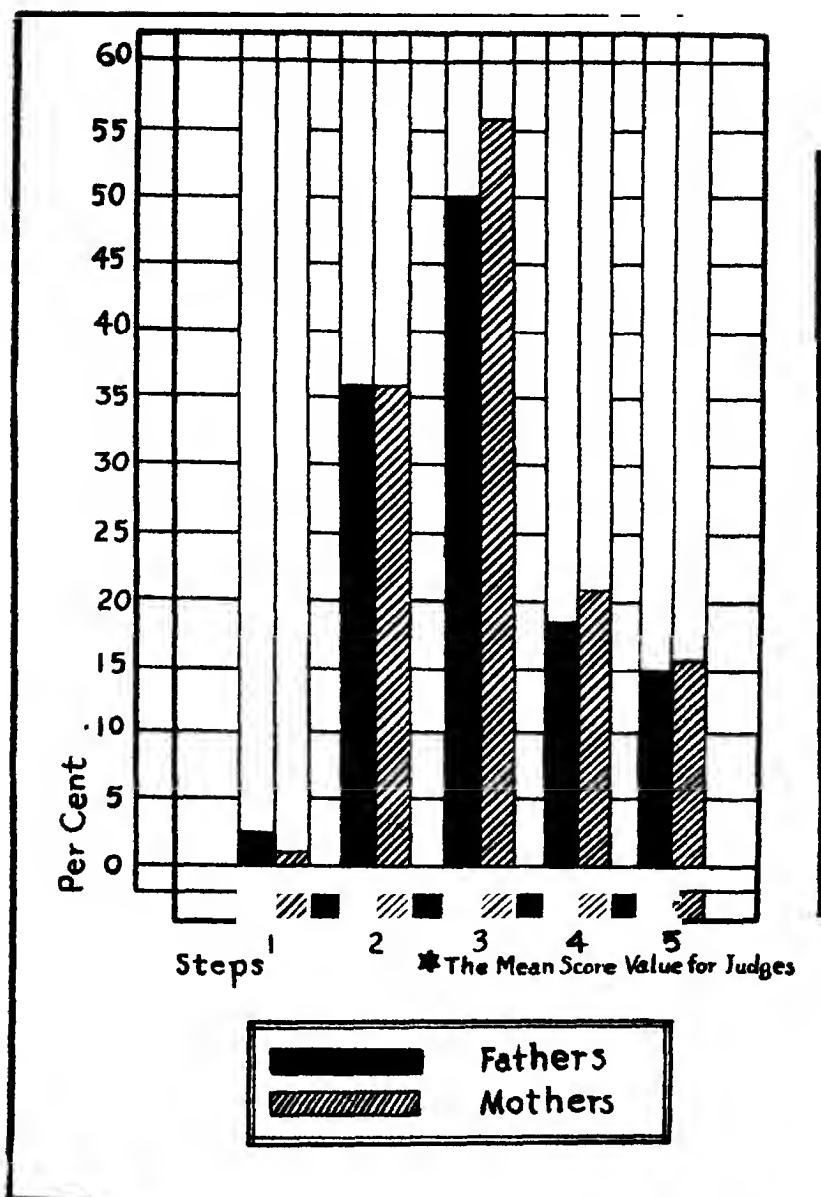


Figure 2. Percentage Distribution of Parental Opinions Regarding Tolerance of Untruths in Children.

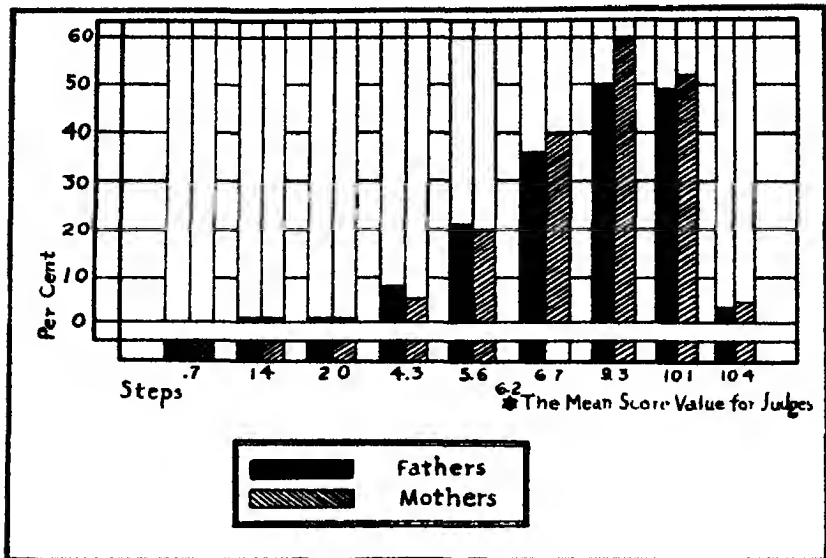


Figure 3. Percentage Distribution of Parental Opinions Regarding Tolerance Toward Older Children's Lies.

It may be seen that negative procedures were often marked as good. One-fourth of the parents were willing to consider such a procedure, "eliminating cause of act," equally well in three different for the property of others. "An eye for an eye" policy appears to prevail in the thinking of approximately one-third of the parents, as this number did not regard stealing from the child a poor procedure to use in teaching him property rights. There is a significant difference in the opinion of fathers and mothers as to the advisability of "starting the child to school at a later hour" because he had the habit of taking pencils from the desks of other children. Only one-fourth of the fathers recognized this as a poor procedure.

The following tabulations show the success of parents in applying constructive procedures for treating children's disregard for property rights. Seventy-five per cent of the parents are able to apply the procedure, "eliminating cause of act," equally well in three different applications. The fact that the critical ratio between responses is more than 4 indicates that parents are not equally successful in responding to items which give children more concrete experience in property ownership.

Procedure	Application of Procedure		
	1	2	3
Giving child more concrete experience in property ownership	21.3	35.1	
Eliminating cause of act	76.6	75.4	78.5

The critical ratios between the percentages of approved responses in the applications of procedures are:

Procedure	Application of Procedure		
	1 and 2	1 and 3	2 and 3
Giving child more concrete experience in property ownership	73		
Eliminating cause of act	6	10	16

Sex Education

The sex education of children has long been a disputed subject. Present educators favor giving children sex information in early years. The responses of the parents to tests in this section indicate their acceptance or rejection of this plan.

Desirability of Giving Children Sex Information.—Figure 4 shows the mean of the judges' opinions regarding the desirability of giving children sex information between the ages of six and twelve. It also shows the percentage distribution of parents' endorsement of each of the statements in the scale. No statement expressing desirability of giving children sex information was checked by more than four-fifths of the parents. Some parents checked statements which expressed opinions highly opposed to sex education. The mean of the judges is located on step 2.0, indicating that people trained in the field of parent education regard sex education of children as highly desirable.

Answering Children's Sex Questions.—The parents' successful evaluation of different procedures for answering sex questions is seen in the following tabulation:

Items	Mothers	Fathers
1	59.7	43.8
2	67.9	55.0
3	60.2	45.6
4	24.9	20.2
5	71.0	64.5
6	36.7	23.7
7	50.2	45.6

When a child asks "where babies come from," more than 50 per cent of the fathers believe in telling that the stork brought them, or in distracting the child's attention by talking about something else.

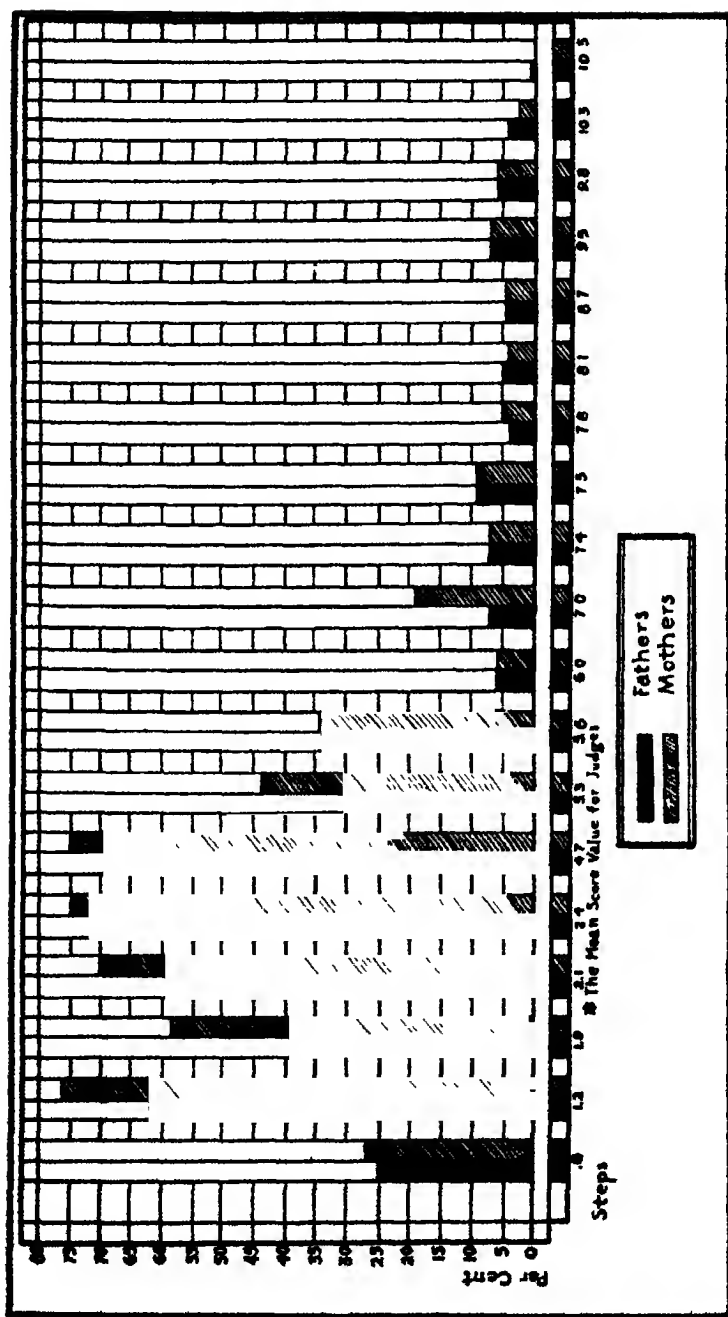


Figure 4. Parents' Attitudes Toward Giving Children Sex Information.

Forty-five per cent of the fathers would answer the question accurately but briefly. There is a significant difference between the percentage of approved responses for the fathers and the mothers in regard to this item, for 60 per cent of the mothers gave the approved response. Seventy-five per cent of the fathers failed to indicate that it is a poor method to tell a child "she is too young to understand now, but that you will tell her when she is older." Approximately 50 per cent of both mothers and fathers approved of the use of pets to teach their children about reproduction.

Emotional Development

The analyses of the parents' responses to items which test the ability to apply generalizations pertaining to emotional development of children between ages of six and twelve are grouped together in this section.

Feelings of Inferiority.—Feelings of inferiority are symptoms of maladjustment which may be caused by many factors and may be expressed in many ways. Among the most frequent causes are undesirable home conditions and attitudes of parents. The tabulation given below shows the percentage of successes for this group in dealing with feelings of inferiority in children.

Only one-fourth of the parents apparently realize the necessity for showing children who feel inferior definite methods for gaining ascendancy. In the situation dealing with inferiority because of sex, almost all parents indicated they would demand that the brothers be more chivalrous toward their sister. The natural processes of adjustment through giving the girl the same privileges as her brother were rejected by one-third of the subjects. Three-fourths of the parents fail to recognize the undesirability of giving the girl books to read as a means of overcoming her feelings of inferiority. It appears difficult for these parents to recognize poor procedures, because in the one section devoted to such procedures very few parents expressed disapproval of them.

Items	Mothers	Fathers
1	6.8	9.4
2	22.2	22.5
3	63.8	64.5
4	22.2	28.4
5	87.3	82.8
6	84.6	79.8

Items	Mothers	Fathers
7	75.6	78.1
8	80.5	72.2
9	23.5	24.3
10	87.3	84.6
11	86.8	84.0
12	14.0	15.4
13	59.3	52.1
14	53.4	41.2
15	53.4	48.5
16	14.0	15.4

The ability of the parents to apply the constructive procedures relating to the treatment of inferiority is shown in the next tabulation. If a shorter test is desired, the last item could be omitted as the per cent of correct response shows that it is a duplication of item 12; both are applications of compensatory procedures (see Appendix, pp. 360-362). The same is true of item 8 which duplicates 2 in the application of a procedure, since the difference in the parents' ability to respond to them is not significant. The differences which are above 4 in the application of procedures are significant. It appears that generalizations relating to the treatment of inferiority by providing opportunity for more self-expression and development of self-confidence are not operating consistently in the thinking of this group of parents.

Procedure	Application of Procedure			
	1	2	3	4
Compensatory procedures	14.6	14.6		
Removal of difficulty	22.3	23.8		
Providing more self-expression	64.1	76.6	54.0	86.2

The critical ratios between the percentages of approved responses to the applications of procedures in the tabulation above are:

Procedure	Application of Procedure					
	1 and 2	1 and 3	1 and 4	2 and 3	2 and 4	3 and 4
Compensatory procedures						
Removal of difficulty	.8					
Providing more self-expression	6.3	5.5	11.1	11.3	4.8	16.1

Teaching Emotional Control.—The majority of parents indicated by their responses a knowledge of the generalization that a poor physical condition may increase the child's susceptibility to emotional reactions. Over two-thirds of the parents recognized the fact that the environment may either produce or prevent emotional actions al-

though conflicts cannot always be avoided, and that many unacceptable reactions can be prevented by providing desirable outlets. Four-fifths of the parents appreciated the fact that emotional responses become habitual if the child gets satisfaction from them or wins attention. Developing a sense of humor to facilitate changes in tension during emotional disturbances was endorsed by two-thirds of the parents. Direct methods, such as forcing the child to obey, spanking, and scolding, were regarded with favor by approximately one-half of the parents.

The following tabulation gives the percentages of parental success in applying generalizations relating to the development of emotional control in children.

Items	Mothers	Fathers
1	91.4	87.2
2	76.5	75.0
3	33.5	41.3
4	74.7	72.5
5	80.1	74.4
6	88.2	85.0
7	55.2	61.3
8	34.4	20.0
9	63.9	55.0
10	68.8	67.5
11	56.1	49.4
12	81.0	79.4
13	76.5	72.5
14	29.9	30.6
15	85.0	83.1
16	75.5	77.5
17	74.2	65.0
18	30.3	28.1
19	49.3	36.6
20	81.5	78.1
21	69.2	63.1
22	15.4	8.1
23	63.4	55.0
24	79.8	76.9
25	48.4	42.5
26	56.1	51.9
27	41.2	50.0
28	84.6	80.0
29	86.9	80.0

The following tabulations show that "attempting to remove the cause of undesirable behavior" and "using logical rewards" are the only two procedures that the parents were able to apply consistently in different situations in which children exhibited a lack of emotional control.

Procedure	Application of Procedure		
	1	2	3
Find cause of undesirable behavior	89.8	80.0	
Apply remedial measure to the cause of undesirable behavior	80.3	82.7	
Talk to child about self-control	29.4*	19.3*	
Substitute desirable for undesirable action	84.3		
Provide good examples of emotional control	66.7	59.5	68.2
Use logical rewards	59.8		
	78.5	84.0	

*Where the remedial measures are only fair procedures.

The critical ratio between applications of other procedures is over 4, indicating that there is a significant difference in the parents' ability to use them in unlike situations.

Procedure	Application of Procedure		
	1 and 2	1 and 3	2 and 3
Find cause of undesirable behavior	5.4		
Apply remedial measure to the cause of undesirable behavior	1.1		
Substitute desirable for undesirable action	5.1*		
Use logical rewards	3.6	.8	4.4
	2.8		

*Where the remedial measures are only fair procedures.

Teaching Caution Versus Fear.—Caution rather than fear is considered desirable in teaching children to control dangerous factors in their environment as fear may serve to incapacitate the mental processes. The tabulation below indicates the success of the parents in applying this generalization. The highest approved response was for the items concerned with the fact that a child should have no fear in going to bed alone. Poison, matches, fire, and God were the items which were most frequently marked that the child should fear. The lowest percentage of approved response was on the item kidnapping; very few parents thought that the child should have no fear of being kidnapped. The percentages of approved responses for all items are shown in the tabulation below.

Items	Mothers	Fathers
1	89.6	85.8
2	87.8	80.5
3	93.2	88.8
4	80.5	79.3
5	21.2	26.0
6	59.2	54.4
7	48.9	45.6
8	86.4	80.5
9	38.9	40.2
10	58.4	52.0
11	22.6	23.0
12	74.2	74.6
13	64.7	66.3
14	33.8	28.4

Items	Mothers	Fathers
15	72.0	65.7
16	56.7	55.0
17	87.3	78.7
18	53.0	54.4
19	80.5	77.5
20	69.2	65.7

Use of Fear as a Means of Controlling the Behavior of Children.—The mean of the judges' opinions regarding the desirability of using fear as a method of controlling the behavior of children between the ages of six and twelve is shown in Figure 5. The figure also shows the distribution of parents' opinions by the percentage of fathers and mothers endorsing each statement. It is apparent that these responses lie far beyond what the judges considered to be an intelligent attitude. The parents were often inconsistent in the marking of the scale, showing that their attitudes toward the use of fear were unstable.

Freedom of Vocational Choice

The selection of a suitable vocation is a problem which confronts every young person. Parental influence often determines the child's selection. How much freedom are parents willing to give their children in the selection of a vocation? The following tabulation shows the percentage of parents who were willing to help their children enter vocations usually considered as masculine work.

Items	Girls		Boys	
	Mother	Father	Mother	Father
1	58.4	54.4	73.8	75.1
2	42.1	39.6	55.7	50.3
3	56.8	52.1	65.1	53.9
4	64.3	56.8	73.8	65.1
5	26.0	27.8	55.2	49.7
6	18.6	19.5	50.7	45.6
7	52.0	44.4	67.9	58.0
8	20.0	18.0	60.0	54.0

The percentage of parents who are willing to help their children enter vocations usually considered as feminine work is given below:

Items	Girls		Boys	
	Mother	Father	Mother	Father
1	60.6	65.6	53.4	61.3
2	43.4	49.4	34.4	40.6
3	39.8	43.1	26.7	29.4
4	52.5	51.8	46.1	52.5
5	45.7	45.0	43.0	49.4
6	50.2	50.6	26.2	30.6
7	53.9	55.6	48.0	54.4
8	35.8	35.0	27.1	33.1
9	51.1	50.6	24.9	27.5
10	42.5	42.2	46.6	54.1

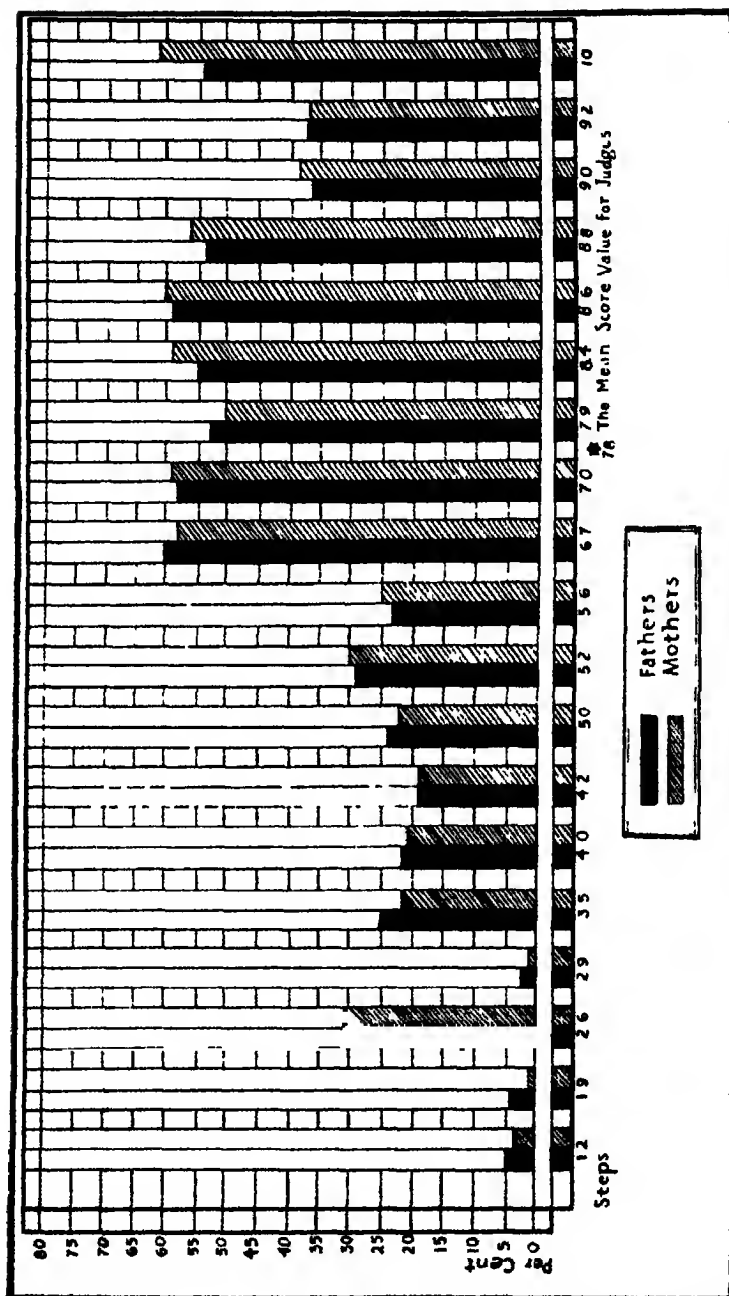


Figure 5. Parental Opinions Regarding the Use of Fear as a Means of Controlling Children's Behavior.

Farming for boys was the item which received the greatest number of approved responses. Occupations which at present employ both sexes such as chemistry, teaching, and stenography received practically the same approval by both fathers and mothers for boys and girls. Manicuring was judged the lowest of all the occupations listed. There was not much difference in the percentages of parents' responses to most of the vocations. In general, they were more favorably disposed to help boys than girls enter masculine vocations and vice versa.

In order to probe more deeply into the responses of the parents, statements with affirmative and negative replies were constructed regarding their choices. The following tabulation concerns parents who were willing to help their son become a manicurist if he so desired. Fifty per cent of them would do so "because they firmly believe that everyone has the right to follow the vocation of his choice." Twenty-five per cent endorsed the item "with the mental reservation that they would try to interest him in some other occupation."

State- ment	Mothers	Fathers
1	52.0	50.0
2	25.4	26.9
3	3.6	8.4
4	18.6	21.9

The reasons given by parents who would not help their son become a manicurist if he had the ability with which to do it were oftenest that the occupation was "sissy" and contrary to social custom. The distribution of parents' responses is shown in the following tabulation:

State- ment	Mothers	Fathers
1	14.0	17.5
2	12.2	19.4
3	2.7	4.4
4	.9	1.3
5	7.2	5.6

Physical Growth

Parental interest in the physical growth of children has had an impetus in the past few decades, but an examination of the responses made to tests in this section shows that many pertinent generalizations related to physical growth are not functioning in the thinking of these parents.

Variations in Rate of Physical Growth.—The kind of food that the child eats was more frequently recognized as a factor which might cause variation in the child's growth. The item which received the second highest approved response was "the differences in hereditary make-up of the child." Items dealing with more technical information were less frequently marked in the approved manner. Less than one-fifth of the parents are apparently aware of the fact that climate may cause a variation in growth. More than 50 per cent of the fathers did not indicate that they knew children grow at different rates at different ages. The following tabulation gives the per cent of approved responses for the items in this test:

Items	Mothers	Fathers
1	73.0	67.5
2	73.8	76.0
3	47.0	35.0
4	18.6	19.4
5	24.4	21.3
6	50.6	44.4

Exposing Children to Chicken Pox.—From the tabulation below it is encouraging to note that the practice of deliberately exposing children to communicable diseases to acquire immunity in early years is becoming unpopular:

Items	Mothers	Fathers
1	94.5	90.6
2	49.3	41.3
3	97.3	94.4
4	93.7	91.3
5	59.7	58.8
6	70.1	68.1

Only 5 per cent of the mothers and 10 per cent of the fathers recommended this practice. But not more than seven-tenths of the parents would take measures to prevent the child from acquiring chicken pox. In fact, almost three-fourths of the parents were willing to leave the matter to chance and half of the parents would not keep the child from a sick playmate. One mother wrote on her test: "What's the use; he has probably been exposed already."

Influence of Environmental Factors on Physical Characteristics.—Less than 50 per cent of the parents were of the opinion that rickets are due largely to environmental influences; a few more than 50 per cent attribute tuberculosis to environmental influences. Judging from these

responses, approximately one-half of the parents included in this study were either unfamiliar with the generalizations represented in this section or were not able to apply them. Percentages for all the items are:

Items	Mothers	Fathers
1	86.0	89.4
2	56.6	65.6
3	53.4	51.3
4	59.3	58.3
5	83.2	90.0
6	47.0	45.6
7	89.2	92.1

Determining the Physical Status of the Child.—More mothers than fathers recognize the desirability of a medical examination for determining the physical status of the child. About three-tenths of the parents consider height-weight tables a good method for estimating their child's physical status. The percentage distribution of the approved response is shown in the following tabulation:

Items	Mothers	Fathers
1	69.7	73.1
2	65.2	64.8
3	54.8	50.7
4	58.8	60.6
5	76.5	69.4

Health Program.—The majority of parents apparently lack the ability to apply generalizations regarding the desirability of immunization in childhood. The highest number of correct responses for one of these items was the endorsement of vaccination for smallpox by 63 per cent of the mothers. Less than 44 per cent of the fathers thought that diphtheria immunization was essential. Parents failed to differentiate between inoculation for colds and the necessity for immunization for diphtheria and smallpox. A little more than 50 per cent of the parents recognized the importance of cod-liver oil in winter time. Regularity of bowel movement and brushing of teeth were the items which most consistently received approved responses. More mothers than fathers recognized the importance of children having over a pint of milk daily. There is also a significant difference in the response of fathers and mothers to the desirability of fresh air. About four-fifths of the parents recognized the need of a yearly medical examination in a health program for elementary school children. The percentages of approved responses in this section are:

Items	Mothers	Fathers
1	60.6	58.1
2	89.1	78.8
3	74.2	63.6
4	50.3	46.9
5	43.4	32.5
6	53.0	51.2
7	35.8	33.1
8	62.5	53.1
9	28.5	28.1
10	53.4	44.1
11	27.6	36.9
12	81.0	67.5
13	86.9	81.8
14	88.2	83.8
15	85.0	84.4
16	48.0	48.1
17	89.6	86.3
18	86.0	81.2

Mental Development

The following tabulation shows how effectively parents handled items concerning generalizations of factors which stimulate mental growth:

Items	Mothers	Fathers
1	80.0	78.1
2	66.5	72.5
3	83.2	78.1
4	38.5	30.1
5	89.6	93.8
6	93.7	97.5
7	48.4	45.0
8	90.5	91.9

An appreciation of the characteristics of the child who is highly intelligent is shown below:

Items	Mothers	Fathers
1	97.3	93.8
2	95.5	97.0
3	80.0	81.3
4	82.8	83.1

Very few parents, approximately one-tenth of the subjects in this investigation, believed that mental growth was determined by heredity. One-fifth agreed that a child who had a high intelligence would be bossy with other children; few parents believed that he would be physically weak and low in moral qualities. The majority failed to recognize the fact that the training of a child's imagination might stimulate mental development; one-sixth of the parents would favor repressing the child's natural curiosity as a means of stimulating mental growth. Drill in school subjects was one of the popular forms chosen by parents for stimulating mental growth in their children.

Use of Money

The percentages of parents making approved responses to test items dealing with the child's use of money show that either a knowledge of the necessary generalizations is not present or the subject lacked the ability to apply them.

Children's Allowance.—Four-fifths of the parents indicated that they considered the purpose of the allowance was to educate the child, but their ability to apply generalizations pertaining to it is shown in the tabulation.

Items	Mothers	Fathers
1	82.8	82.5
2	61.5	51.3
3	81.9	76.9
4	24.0	23.8
5	37.1	32.5
6	35.3	31.3
7	15.4	16.3
8	58.4	51.3
9	53.2	48.3
10	57.5	56.3
11	79.2	69.4
12	92.3	86.3
13	60.2	54.4
14	94.1	91.2
15	78.7	56.5
16	79.2	80.6
17	34.4	26.9
18	79.2	71.3
19	77.4	67.5

Most of the parents recognized that the money a child's playmate received should not be a major factor in the size of the allowance given their own child. But over 40 per cent failed to recognize the needs of the child as an important factor. Approximately one-half of the parents felt that the size of the allowance should depend upon the needs of others in the family. There is a significant difference in the responses of fathers and mothers as to whether the amount that is given to another child in the family should influence the size of the allowance. Almost four-fifths of the mothers and only one-third of the fathers scored the approved response.

Nearly 50 per cent of the fathers indicated they would withhold a child's allowance for disobedience and about the same number would supplement their allowance for good grades and conduct. Almost one-third of the fathers were of the opinion that the allowance should be given to the child as a reward for good conduct. The percentage of mothers endorsing these same ideas was slightly less. Less than

one-fourth of the parents expressed the opinion that the allowance should never be withheld.

If the child's allowance needs to be supplemented, the parents disregard businesslike procedures such as loans or payment for extra work. The most popular procedure was to give money for good grades and conduct.

Teaching Children Habits of Saving—From the responses it was evident that the majority of parents recognized the most feasible procedure of teaching a young child to save, that is, saving for some small article he desires. However, most parents failed to appreciate the limitations of such methods as talking to the six-year-old about a rainy day, and the necessity of saving and putting money for him in the savings bank each week. More than four-fifths of the parents considered this a good method.

Items	Mothers	Fathers
1	19.9	18.1
2	81.9	75.6
3	12.7	7.5
4	14.9	19.4
5	70.6	57.5

Procedures for Teaching Children Good Judgment in Handling Money.—The majority of parents failed to recognize experiences which, according to expert opinion, would give the child opportunity to learn good judgment in handling money. More than four-fifths of the parents endorsed the plan of putting money into the bank for the child; three-fourths of them did not feel that giving a child money only for specified purchases was a poor method. Less than one-half of the parents favored providing opportunities for their children to loan or borrow and repay a loan within the family. As one man said in the interview, "Let them learn on their own money." The percentage of correct responses for each item of the test is shown below:

Items	Mothers	Fathers
1	25.8	26.9
2	43.9	44.4
3	72.4	62.5
4	62.4	51.3
5	72.4	65.0
6	40.7	32.5
7	48.4	38.3
8	12.7	16.3
9	54.8	50.0

Summary

The responses of parents to test items related to emotional development, mental development, physical growth, sex education, social development, use of money, and vocational guidance indicate either a lack of knowledge which is important for the satisfactory care and guidance of elementary school children or an inability on the part of parents to apply the pertinent generalizations

The percentages of approved response give some indication that mothers are more capable of applying generalizations related to child development than are fathers. The difference, however, is significant only in the case of the following items: (1) starting the child to school at a later hour to prevent him from taking other children's pencils, (2) answering a six-year-old child's sex questions accurately but briefly, (3) considering the amount given to another child in the family as a major factor in deciding the size of a child's allowance, and (4) the desirability of opening windows at night. In general, it may be said that the ability of fathers and mothers to apply generalizations pertaining to child development is about equal.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The aim of this investigation has been to ascertain some of the needs of parents of elementary school children. It has been assumed that expressing these needs in terms of the psychological elements of behavior is preferable to other methods, as it gives cognizance to the several types of changes produced through learning, that is, knowledge, attitudes, emotional patterns, skills, etc. The study is concerned specifically with determining what generalizations are considered important in the thinking of parents of elementary school children, and which of the important generalizations are functioning in the thinking of this group.

To ascertain which generalizations are important, research studies pertaining to mental development, physical growth, emotional development, social development, vocational guidance, and sex education were assembled. For convenience in organizing and utilizing these studies, two workers analyzed the material related to each field into subsections, putting together all studies which were concerned with a common problem. Since a large part of parental behavior is not covered by current research, the opinions of child psychologists, clinicians, and others dealing with children in a professional way were added to the studies and analyzed in a similar manner. Summaries were prepared of the material in each subsection, and discrepancies in the conclusions of different contributors were noted. This method of compilation resulted in a comprehensive list of the most valid generalizations available at the time.

The method used for evaluating the importance of the generalizations was a consensus of expert judgments. Ten judges, selected for their familiarity with the subject matter, the activities of parents, and adult psychology, rated the generalizations on three levels of importance for the satisfactory care and guidance of elementary school children. In addition to the prepared list, the judges were asked to supply additional generalizations which they considered highly important.

Objective attitude and knowledge tests covering generalizations which four-fifths of the judges rated as highly important were constructed. Knowledge tests were largely of the multiple-choice type and many of them were built around specific situations. The purpose of these was to test the parent's understanding of important generalizations. Attitude tests were constructed according to Allport's *a priori* form and by the use of Thurstone's psychophysical techniques. The tests were then read to a group of parents to see that they comprehended the test items and that the vocabulary was not too difficult. A group of judges was given the battery of tests to check for ambiguities of statements. The consensus of the markings of these judges formed the key with which the parents' responses were compared.

Responses to the tests were secured from 771 parents. These were obtained through visits to the homes, through the coöperation of the public schools, parent-teacher associations, and child study clubs. In securing the sampling, variations in education, occupation of parents, size of family, age of children, and types of communities were considered. The data were largely secured by the responses of parents to self-administered tests.

The analysis of the data leads to the following results:

1. A comprehensive list of generalizations was compiled which were considered by a group of experts to be highly important for the satisfactory care and guidance of elementary school children. The list is not to be looked upon as static, for the judgments should be revised from time to time to give consideration to new knowledge and to changes in society.

2. The coefficient of correlation for the rating of the generalizations by ten judges was $.87 \pm .01$, indicating that probably a sufficient number of judges were used in this investigation.

3. The mean per cent of approved responses for the multiple choice items for Battery 1 was 50 per cent and for Battery 2, 61 per cent. However, individual parent's responses for both batteries covered a range extending from less than one-fifth to over four-fifths of the approved responses.

4. The coefficient of reliability for the multiple choice items in Battery 1 was $.92 \pm .01$ and for Battery 2, $.91 \pm .01$. These reliabilities are moderately high for tests of this type.

5. The attitude scales constructed by the Thurstone technique were found to have a probable error of .80 of a scale value, which is satisfactory for scale values recorded to one decimal. The Allport *a priori* test may be regarded as an intermediary step in attitude scale construction. Since those used in this investigation differentiate between the opinions of parents, they may well be expanded and refined by the Thurstone procedure.

6. All attitude tests used in this study revealed parental opinions that were outside the range which the experts considered an intelligent attitude.

7. Very few significant differences were found between the responses of mothers and fathers to the test items.

8. The inability of parents to use generalizations understandingly was not confined to a single field in child development but extended over all included in this investigation. This is in direct opposition to the implied assumption in much parent education writing, that knowledge of child guidance and intelligent attitudes are present in the thinking of the majority of parents.

REFERENCES

1. Bobbitt, Franklin: How to make a curriculum. Boston. Houghton Mifflin, [c. 1924] Pp. 292.
2. Burch, Mary Crowell. Determination of a content of the course in literature of a suitable difficulty for junior and senior high school students. *Genet. Psychol. Monog.*, 1928, 4, No 2 and 3, 163-332.
3. Charters, W. W.: Curriculum construction. New York: Macmillan, 1924. Pp. xii, 352.
4. [Commission on the Reorganization of Secondary Education]: Cardinal principles of secondary education. A report of the commission on the reorganization of secondary education appointed by the National Education Association. Washington, D. C.: Govt. Printing Office, Bureau of Education Bull., 1918 (1928 printing), No. 35, Pp. vii, 27.
5. Garrett, Henry E.: Statistics in psychology and education. New York. Longmans, Green, 1926. Pp. xiii, 317.
6. Judd, Charles Hubbard. Psychology of secondary education. Boston: Ginn, [c. 1927] Pp. xiv, 555
7. Katz, Daniel, and Allport, Floyd Henry. Students' attitudes: A report of the Syracuse University reaction study. Syracuse, N. Y.: Craftsman Press, 1930. Pp. xxviii, 408
8. Laws, Gertrude. Parent-child relationships. A study of the attitudes and practices of parents concerning social adjustment of children. *Teach. Coll., Columbia Univ., Cont. to Educ.*, No. 283, 1927, Pp. 57.
9. Ojemann, Ralph H.: The construction of a curriculum in parent education. I. The nature and source of objectives. II. Special problems relating to generalizations. University of Iowa, Unpublished Study.
10. Ruch, G. M.: The improvement of the written examination. Chicago, Ill.: Scott, Foresman, [c. 1924] Pp. x, 193.
11. Ruch, G. M., and Stoddard, George D.: Tests and measurements in high school instruction. Yonkers-on-Hudson, N. Y.: World Book Co., 1927. Pp. xix, 381.
12. Stoddard, George D.: The problem of content in parent education. *Childhood Educ.*, 1930-1931, 7, 227-232.
13. Tilson, Marie Agnes: Problems of preschool children: A basis for parental education. *Teach. Coll., Columbia Univ., Cont. to Educ.*, No. 356, 1929, Pp. ix, 90.
14. Thurstone, L. L., and Chave, E. J.: The measurement of attitude: A psychophysical method and some experiments, with a scale for measuring attitude toward the church. Chicago, Ill.: Univ. Chicago Press, 1929. Pp. xii, 96.

PART FIVE

**A STUDY OF THE NEEDS OF HIGH SCHOOL
STUDENTS AND THE EFFECTIVENESS OF
A PROGRAM OF LEARNING IN SELECT-
ED PHASES OF CHILD DEVELOP-
MENT AND FAMILY
RELATIONSHIPS***

by

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CHAPTER I

THE IMPORTANCE OF TRAINING IN CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS FOR HIGH SCHOOL PUPILS

Parent educators have long recognized that there are many important facts and principles which parents should know about child development and family relationships. There is available a considerable body of knowledge, information, and skills which has proved itself invaluable to those who are responsible for child development and the conditions which constitute successful family relationships. Similar statements may be made in reference to attitudes and emotional patterns. Recently there has arisen the question, "Would not some of this material be of value to older children as well as to parents?"

In considering this question there appear to be several reasons why a knowledge of the information, skills, attitudes, and emotional patterns relating to child development and family relationships may be pertinent in the thinking and behavior of children of high school age. From the standpoint of the older child especially, there is the matter of the value of training for parenthood. A large proportion of high school boys and girls will become parents within a few years. Should they wait until they are parents before they acquire some of these important facts, or is it more desirable to provide a broad foundation for their parenthood experiences by a certain amount of preparatory training?

The possibilities of training in child development are also to be considered from the standpoint of citizenship value. It is quite possible that training in child development might enable an individual to contribute more intelligently to such matters of vital importance to children as educational programs, health programs, playgrounds, theatres—in fact, to many public ventures which affect the welfare and development of children. It is not uncommon for older children to assume rather frequently the responsibility for the care and guidance of younger children in the family. Contacts with children out-

side the family group are common. It is quite likely that many important principles related to the physical, mental, emotional, and social development and the play life of young children may be of great importance in such interactions.

There is evidence that schools are recognizing some of these possibilities in their curricula. For some time schools have devoted a certain amount of attention to the so-called household arts. More than a generation ago instruction in cooking and sewing was admitted to the school curriculum. Today there is a considerable body of knowledge, skills, and appreciations in the form of various courses in home economics, home mechanics, and household arts. Modern courses in home economics have been extended in many cases to include some of the problems of home planning, household activity, and recently child care.

According to a recent report of the subcommittee on preparental education of the White House Conference on Child Health and Protection, there are approximately 125 schools, distributed over thirty-two different states, known to be undertaking some education for home and family life. Twenty-five of these schools have courses specifically designated as "Family Relationships." These courses include such topics as (1) relationships between children and parents, (2) relationships between brothers and sisters, and (3) the relationships between children of a marked difference in age. The committee reported that "much excellent work is in progress in the schools in connection with child care courses, although this, too, is a recently developed field of education."

The committee recognized three reasons for including a study of child development in high school programs: "(1) It helps in the immediate problems of adjustment in families where there are younger children. (2) It furnishes young people with an objective method of studying their own growth and development without danger of too much introspection. (3) It provides preparation for some of the duties of parenthood." Very pertinent to this discussion is the further comment of the committee:

"Courses in child care and development indicate that educators are realizing that the vital question of instructing future parents in some of the techniques of child care should not be left to chance. For the most part courses are being handled intelligently, and through them the girls and boys are coming to understand that parenthood requires preparation and aid from scientific and educational sources. To this extent the schools are aiding the pupils in adjustment in present relationships to younger children, and in a measure equipping them with knowledge of how to cope with future duties." (6, page 76)

From evidence of this kind it appears that leaders in the field are recognizing the desirability of this type of training for high school pupils. But as yet there has been no thorough study of content or of the effectiveness of the few courses which have been offered.

In order to determine the needs of high school pupils in certain phases of child development and family relationships, and the effectiveness of a program of learning experiences designed to meet these needs, the present study was undertaken.

The following aims are set forth:

1. To determine the generalizations relating to selected phases of child development and family relationships which were considered by a group of judges to be of greatest importance to high school pupils.
2. To measure the extent to which high school pupils are able to apply important generalizations and the degree of maturity reached in certain important attitudes.
3. To construct a program of learning experiences for developing in high school pupils a knowledge of important generalizations and maturity in attitudes in relation to selected phases of child development and family relationships.
4. To determine the effectiveness with high school pupils of the program of learning experiences by a series of experiments using test and control groups.

CHAPTER II

DETERMINING THE GENERALIZATIONS WHICH ARE OF IMPORTANCE TO HIGH SCHOOL PUPILS

The procedure in the first part of this study is similar to that described in a study by Ackerley (1) and is based upon a method developed by Ojemann (4). Briefly the method is as follows: Changes effected through learning are considered as being psychological in nature. Overt behavior itself is considered as the result of the interaction of a complex of psychological factors, including knowledge of generalizations which may function in thinking, attitudes, emotional patterns, and skills. A determination of desirable outcomes is secured by competent judges. Carefully selected persons are asked to analyze their behavior and on the basis of this analysis to rate the importance of the various outcomes.

In this study it was not possible to include all phases of child development and family relationships. Therefore, an arbitrary selection was made. This selection does not indicate that the author considers these aspects selected as representing the whole field or that there are not other aspects that are important for the purposes of investigations of this kind. The selection of the following aspects of child development was made with the time limits of this study in mind:

1. Physical growth
2. Motor development
3. Mental development
4. Emotional development
5. Social development
6. Play
7. Importance of child study, growth of knowledge, and its importance in understanding and guiding children

The generalizations on the family included:

1. Definitions of the family
2. Size and prevalence of the family
3. Functions of the family: economic, biological, protective, recreational, educational, and affectional
4. Family conflicts
5. Divorce

These generalizations were compiled from materials which represent the most highly refined data in the field. They were validated on the basis of a careful examination of such data. When the evidence conflicted, the generalizations indicate this disagreement. The arrangement of these materials is to be regarded as flexible in order to provide for new data which are constantly appearing in a growing field. The generalizations are in no sense to be considered static; they may be modified to whatever extent is necessary to insure their validity on the basis of more highly refined scientific investigation.

The generalizations relating to the topics listed above were prepared in such a form as to permit a board of judges to rate each generalization according to its importance (high, average, or low) which in their judgment it should assume in the thinking of high school pupils, including both boys and girls.¹ The generalizations relative to the selected phases of child development were prepared by research workers at the Iowa Child Welfare Research Station and were accessible to the writer for the purposes of this investigation. The generalizations relative to the family were prepared by the author.

PERSONNEL OF THE JUDGES

An analysis of the process of rating generalizations by three judges interested in this study resulted in the following criteria. These criteria were applied in selecting ten persons who judged the generalizations.

1. The judge must have a wide fund of knowledge in the field of child development and family relationships.
2. The judge should be interested in the distinction between the functions of the lay citizen and parent as compared with the functions of various types of experts.
3. The judge must be actually passing through the process of establishing a family or guiding children, and seeking to do this intelligently. In other words, he "must be in action."

All the judges who participated in the rating process possessed a wide fund of knowledge. All of them had received a master's degree or its equivalent in child development and were interested in the education of high school pupils. They were persons who had had

¹A condensed form of the generalizations with the judges' ratings is included in the manuscript copy of this study on file at the Library of the State University of Iowa, Iowa City, Iowa.

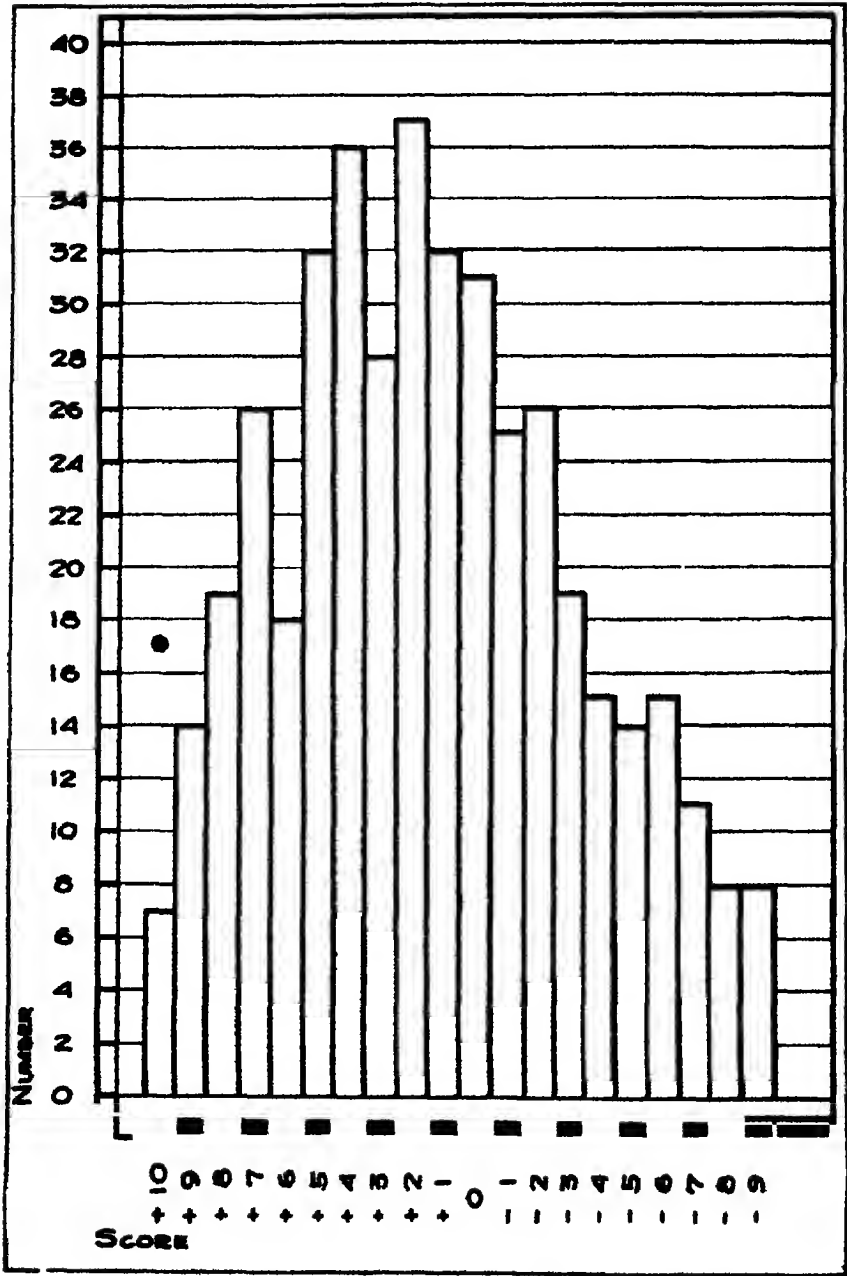


Figure 1. Distribution of Generalizations According to Score Values Assigned.

some experience or contacts with persons of high school age. Both sexes were represented on the board of judges. Most of the judges had established families and were rearing children or assuming the responsibility for the welfare of young children.

RELIABILITY OF RATINGS

The correlation of the ratings of five of the judges with the other five was $.883 \pm .008$. By applying the Spearman-Brown prophecy formula, a reliability of $.938 \pm .006$ was obtained for the ratings of ten judges.

SCORING THE GENERALIZATIONS

Generalizations rated as of high importance were assigned a score of +1, generalizations rated as of average importance were scored 0, and those rated low in importance were assigned a score of -1. This scheme, rather than a more complicated scheme, has only the quality of simplicity to recommend it.

The scores assigned ranged from +10 to -9. The distribution of the generalizations according to their score value is graphically represented in Figure 1. It will be noted that somewhat more than half of the generalizations received a score of +2 or more.

The placement of these generalizations according to the judges' ratings is not to be considered permanent in any sense. As more highly refined data become available relative to the function of parents in society, the comparative importance of the generalizations is likely to change. In order to insure validity, the process of placing the generalizations according to importance must be dynamic rather than static and exceedingly sensitive to changes in the field.

CHAPTER III

CONSTRUCTION OF TESTS

The objective test has many advantages which make it particularly well-adapted to the purposes of the present study. Such a test may serve as a means of determining with a minimum of time what generalizations relative to child development and family relationships are operating in the thinking of high school pupils; at the same time it covers a wide sampling of materials. Other characteristics of the objective test, such as simplicity of scoring, are also advantageous.

Two types of objective tests² are used in the present investigation: (1) knowledge tests and (2) attitude scales. The distinction between knowledge tests and attitude scales employed in this study is largely one of convenience, since there are doubtless attitudes reflected in the responses to the tests designated as knowledge tests, and since a certain amount of knowledge is likely to be operating in an individual's reaction as indicated on an attitude scale. The two types of tests are to be considered in the main as supplementary to each other rather than as utterly distinct in the contributions which they make to this investigation.

In order to avoid confusion as to the use of these two terms in this study, a distinction is made on the basis of the treatment of individual responses and the method used in constructing various sections of the tests. Tests so constructed as to provide for allocating a specific quantitative position to an individual on a well-defined scale are considered as attitude scales. Those tests of the commoner objective type, such as multiple choice and simple recall tests, are referred to as knowledge tests.

The generalizations in child development and family relationships which were rated by the judges according to their importance for high school pupils were examined and a selection made for testing purposes. This investigation is limited to those generalizations which were assigned a score of +7 or more. This made available sixty-six

²A complete copy of the tests used in this investigation is included in the manuscript copy of this study on file at the library of the State University of Iowa, Iowa City, Iowa.

generalizations which were of highest importance according to the consensus of opinion among the judges.

The specific aspects of child development and family relationships represented in this selection are indicated in the following tabulation:

	General- izations
Physical growth	4
Motor development	2
Mental development	8
Emotional development	21
Social development	6
Play	5
Growth of knowledge and child development	2
Importance of child study	2
Importance of studying the family	1
Marriage	3
Functions of the family	12
Total	66

These generalizations were next submitted to an expansion process. Specific problems were set up which were considered analogous to the type of situations in which high school pupils would be likely to be concerned.

KNOWLEDGE TESTS

Knowledge tests of a multiple choice type were constructed. In them an effort was made to present to the pupil problems for which given generalizations were needed in order for the pupil to arrive at an intelligent solution. In some of these tests situations assumed to be of high interest value to persons of high school age were used. For convenience these tests will be referred to as knowledge tests with situations.

In the process of expanding the generalizations and devising test situations representing their applications, an effort was made to define various procedures which were finally incorporated into the specific test items. These procedures represent the operation of certain types of behavior referred to in the original generalization. The procedure is applied even more specifically in the test items. If the generalization is operating effectively in the thinking of the pupil, each item in which the generalization is involved should be evaluated consistently and accepted or rejected in accordance with what comprises an adequate functioning of the generalization in his thinking. If the pupil does not respond consistently, he evidently does not recognize the generalization, or he fails to comprehend its implications to such

an extent as to permit him to apply it to a wide variety of situations.

In relation to each item of the situation type of multiple choice test, opportunities were provided for one of four responses: good, fair, poor, or don't know. Provision was made for the pupil to respond in the don't know column with the specific objective of decreasing chance successes. The frequency of responses in this column, as revealed in the analysis of the test, indicates that the possibility of chance success was reduced to some extent.

It is true that in considering any specific situation by itself one is likely to think of possible relationships involving unmentioned factors and conditions. As a means of encouraging the subject to focus his attention upon the possible relationships implied in the description of the known factors, the directions to the pupil instructed him to regard all conditions not specified in the test as ordinary or average. The pupil was also reminded that no one procedure might solve the difficulty, but that each item was to be judged by itself in the light of its possibilities. Some procedures were repeated in separate test items in order to detect to some extent the consistency of a pupil's ability to apply a given generalization in different applications of the same procedure.

Multiple choice tests without situations (Sections IX and X of the test) were constructed for testing the operating of certain generalizations. In Section IX pupils were asked to rate certain factors as to whether in general they help, hinder, or have no effect upon mental development; in Section X pupils indicated their opinion as to the use of caution rather than fear in reacting to certain situations in their environment.

A still simpler form of the multiple choice test was employed in Sections XI, XII, and XIV of the test. Here the pupils merely checked the items they considered to be appropriate responses in relation to desirable play equipment, care of the baby's teeth, and budgeting.

One section of the test was designed to determine the pupil's knowledge of materials in which one might learn of changes in knowledge of child development. This was put into the form of a simple recall type of test.

In the construction of these knowledge tests, in fact throughout the whole test as well, care was exerted to insure simplicity, economy of time and space, and interest in the subject matter of the test. In order to determine ways of further improvement, however, several of the sections were submitted to a group of twelve high school

seniors in the University high school. On the basis of these pupils' responses, voluntary remarks, and suggestions from the standpoint of pupil comprehension, still further modifications were made before the final battery of tests was compiled.

As a final check on the validity of the test items, they were submitted to six judges well trained in the field and thoroughly familiar with the generalizations. Only those items upon which these persons were in agreement were retained for the testing program.

ATTITUDE SCALES

Scales were constructed for the measurement of pupil attitudes toward the family as an agency for personality development, toward the father's part in the care and upbringing of children, and toward the value of play in the child's development. The procedure used in the construction of these scales was a modification of the same psychophysical technique which Thurstone used in the construction of his attitude scales. The objective in this procedure was to establish a linear continuum upon which an individual might be located in quantitative terms on the basis of the extent to which his opinion was favorable or unfavorable to a specified concept. Once the attitude variable was established, statements were collected which represented opinions ranging from extreme favor to extreme disfavor.

These statements were submitted to a large number of persons who independently sorted them into eleven different piles representing gradations from one end of the scale to the other, from the extremely favorable to the extremely unfavorable opinion. The sixth pile represented the neutral position in regard to the attitude variable.

The frequencies in each pile were tabulated cumulatively and plotted graphically. The scale value assigned to each statement may be defined as that point in the distribution of the statement over the eleven scale intervals above which and below which 50 per cent of the sorters placed the statement. In other words, it is a median scale value of all the placements.

The interquartile range is referred to as the Q value and is regarded as a measure of the ambiguity of the statement. The more ambiguous a given statement is the wider will be the range on the scale within which it is placed by the different sorters, and consequently the greater will be the Q value. The more consistently the statement is interpreted the less variation there is in its placement

on the scale; consequently the Q value becomes correspondingly small. Statements with a large Q value were eliminated since they are too ambiguous for accurate placement of an individual attitude.

Table 1 indicates the scale values and Q values for each statement in each of the scales of this type used in this study.

The reliability of these scales was approximated according to Thurstone's procedure in terms of the probable error of the median of the distributions on the subjective scale. For purposes of illustration, the computation of this value is reproduced here for the scale regarding the father's participation in the care and upbringing of children.

Table 1
Scale Values and Quartile Values for Attitude Scales

Statement	Family in Personality Development		Father's Sharing Child Care		Value of Play	
	Scale Value	Quartile Value	Scale Value	Quartile Value	Scale Value	Quartile Value
1	1.5	1.6	9.5	1.5	10.0	1.9
2			2.1	2.2	10.2	1.1
3	.4	.8	1.8	1.7	9.8	.8
4	1.1	1.4	.6	.9	3	.4
5	5.4	.5	9.7	1.6	1.3	1.5
6	6.6	1.5	10.4	1.0	2.6	1.6
7	2.4	1.8	9.3	2.1	9	1.1
8			10.2	.9		
9	5.6	.4	8.6	1.9	5.9	1.2
10	3.6	2.2	4.0	2.1	4.8	
11	5.0	1.0	4.2	1.3	4.9	1.9
12	3.0	1.7	7.7	2.0	7.9	1.6
13	4.0	1.0	2.2	1.8	9.2	1.6
14	1.3	1.3	8.2	2.4	3.3	1.3
15	8.0	1.8	2.0	2.1	6.5	2.1
16	10.2	1.4	10.3	.8	3.0	1.9
17	9.3	2.5	3.0	1.5	6.4	2.9
18	2.5	1.4	1.4	1.5	8.5	1.5
19	9.6	2.1	8.9	2.0		
20	.9	1.0	9.6	1.7		
21	7.5	1.6	3.7	1.5		
22	10.1	1.2	2.4	2.1		
23	.9	1.0	1.3	1.4		
24			6.2	2.0		
25	7.2	2.0	2.5	1.8		
26	6.4	2.2	10.1	1.1		
27	3.2	1.5	9.6	1.8		
28	7.3	1.8	3.5	1.4		
29	9.1	1.4	5.6	.8		
30			.9	1.7		

The average mean Q value of the 125 opinions is 1.25.

$$q = \frac{Q}{2} = 63$$

$$\sigma_{dist} = \frac{q}{0.6745} = 94 \text{ scale units}$$

$$\sigma_{md.} = 1.25 \sqrt{\frac{\sigma}{128}} = 104 \text{ when } N = 125$$

$$P.F._{md.} = .067 \times .104 \text{ or } .07 \text{ scale units}$$

Similarly, the probable error of the scale value for the scales concerning the family as an agency for personality development and the value of play are .09 and .08 respectively. These are considered satisfactory measures of reliability for scale values recorded to one decimal.

Another type of attitude scale was included in this test in the form of several items selected from the Ojemann self-reliance scale. Each of the fifteen items selected represents an act which children from preschool age to adolescence may be taught to perform without adult help, or with a definitely specified minimum of help. In order to determine the range in age which would fall upon a continuum in this test, the author asked fifteen judges to state the accomplishment ages which they considered favorable, unfavorable, and neutral in relation to the development of self-reliance. The median ages indicated by the judges as representing these three attitudes were allocated positions at the extreme ends and the sixth step (neutral) on an eleven point scale. The age range between the neutral point and the extreme end was divided into five equal intervals on both the favorable and the unfavorable ends of the continuum. A further description of the scale, together with the quantitative values assigned to each of the eleven steps, may be found in the Appendix in the manuscript copy on file at the library at the State University of Iowa.

SCORING KEY

For the purpose of scoring pupils' responses, the knowledge items were treated separately from the attitude scales. It will be recalled that in the construction of these only those items were retained upon which a consensus of opinion was secured from six judges as to the desirable responses. The responses thus designated by the judges were incorporated into a key or a standard for scoring pupils' responses.

It must be borne in mind that the judges scored these items on the

basis of what constitutes valid knowledge in relation to these factors today. These responses are to be considered no more static than the generalizations in relation to which they were made. The generalizations must keep pace with the advancement of knowledge; consequently, the test built on the basis of these generalizations must be kept sensitive to whatever changes occur in the field in order to be valid as a measuring instrument.

The attitude scales were submitted to a group of ten judges, who indicated what they considered an intelligent attitude. The mean score of these judges was used as a standard for judging the significance of the group responses. The attitude scales must also be kept dynamic and sensitive to changes in those factors which operate to define an intelligent attitude. Such changes should be reflected in the scales with no more labor involved than merely having them re-evaluated by a group of competent judges and relocating what is considered the desirable attitudes on the scales.

CHAPTER IV

ADMINISTRATION OF THE TESTS

Through the coöperation of school superintendents, principals, and other officials, permission was secured to administer the tests to over 1,000 high school pupils in ten different Iowa communities ranging from 627 to 23,304 in population and also to a few hundred high school pupils available in Illinois, Colorado, Maine, and Oregon. The total distribution is indicated in the following tabulation:

State	City	Population of City	Subjects
Iowa	A	1,593	166
Iowa	B	7,362	62
Iowa	C	3,473	51
Iowa	D	1,382	23
Iowa	E	15,340	39
Iowa	F	736	49
Iowa	G	2,006	38
Iowa	H	23,304	396
Iowa	I	7,794	345
Iowa	J	627	59
Illinois	K	71,868	106
Colorado	L	287,861	56
Maine	M	7,266	99
Oregon	N	7,585	97
			1,586

The factors involved in securing a strictly random sample of high school pupils are many, but the number of communities and subjects included in the present study is such that the sampling is considered not altogether unlike the high school population at large. The tests were administered to 927 girls and 659 boys.

According to age the group tested is distributed as follows:

Age, Years	Per Cent
13 or less	16.4
14	16.4
15	16.5
16	16.2
17	20.1
18 or more	14.4

According to grade placement the subjects are distributed as follows:

Grade	Per Cent
8	13.1
9	29.3
10	14.0
11	13.2
12	30.3

Intelligence quotients were secured for 645 subjects. Since these measures were based on two different intelligence tests, the Otis Intermediary and the Terman tests, a technique was used for transmuting the Otis quotients into Terman equivalents (2). The distribution of quotients was made according to three levels as follows:

Intelligence Quotient	Per Cent
Below 89	17.5
90 to 109	50.9
110 and above	31.6

The following tabulation indicates the distribution of the groups according to the number of children in the family:

Children in Family	Per Cent
1	9.7
2	17.6
3	21.0
4	14.3
5	12.0
6 to 8	21.3
9 or over	4.0

A study of the differences in age between the subject and the oldest and youngest sibling brought out the following distribution:

Years	Per Cent Difference	
	Between Subject and Youngest Sibling	Subject and Oldest Sibling
0	34.5	35.4
1 to 4	21.1	25.4
5 to 8	21.0	18.6
9 to 12	15.7	10.9
13 and over	7.7	9.7

A further analysis was made of the number of pupils who indicated the occupation of the father. They distributed themselves according to occupational status of parents as follows:

Occupational Status	Per Cent
Professional	4.6
Semi-professional	3.6
Skilled	31.1
Semi-skilled	36.1
Slightly skilled	8.7
Unskilled	11.1
Unemployed	4.7

According to parents' education the responses are distributed as follows:

Years of Schooling	Per Cent Responses According to Schooling	
	Mother	Father
1 to 8	50.5	60.0
9 to 12	36.0	25.3
13 and over	13.5	14.6

There is considerable evidence, judging from the unsolicited reports of teachers, principals, and superintendents, that the subject matter of the test dealt with situations very vital in the pupil's life. The test gave rise to considerable discussion and in many instances created sufficient curiosity on the part of the pupils so that the administrator of the test was questioned in certain instances to considerable length as to the content of the test. This reaction was noticed on the part of boys as well as girls. In no instance did a test blank show indications of any attitude other than a frank response on the part of the subject. The test situation was taken seriously and was apparently of value as an activity in at least directing the attention of both boys and girls to the importance of the generalizations which should be operative in their thinking in the field of child development and family relationships.

CHAPTER V

THE NEEDS OF HIGH SCHOOL PUPILS

The pupil's achievement on the test is interpreted for the purpose of this investigation as a measure of his ability to grasp the implications of common procedures in the field of child development and family relationships and to apply certain important principles in relation to specific situations. In a sense it is an indication of the amount which the pupil has already learned as a result of his life experiences.

The matter of reliability is a consideration which was borne in mind in the construction of the test. As previously stated, care was taken to insure a minimum of difficulty in the interpretation of the items through such steps as securing a board of judges to rate the test items and a preliminary trial of the test with a group of pupils. Aside from adopting such procedures for insuring reliability, statistical measures of reliability have been computed. The measures derived for the knowledge tests and the attitude scales are computed separately.

For determining the reliability of the knowledge tests, the Pearson product-moment formula was used with chance halves of the test; the Spearman-Brown prophecy formula was used to predict the reliability of the test as a whole. The statistical measures derived for the several grades are submitted in the following tabulation:

Grade	r for Chance Halves	Prob- able Error	r for Whole Test	Prob- able Error
8	.871	.012	.931	.006
9	.874	.008	.933	.004
10	.849	.015	.918	.009
11	.808	.019	.893	.011
12	.879	.008	.935	.005

Since these measures are all significantly high, it is assumed that the test is statistically fairly reliable as an achievement test.

A correlation was determined between test achievement and intelligence. The scores representing achievement in the knowledge tests were correlated with the intelligence quotients which were all in terms of Terman equivalents. The coefficient of $.616 \pm .016$

is high enough to indicate some degree of relationship. It is not at all unlikely that the more intelligent pupils were able to profit more by their experience and to appreciate the implications of the test items which represent applications of generalizations. It will be noted, however, that the coefficient is not high enough to indicate that the test is a measure of intelligence. It is only what might be expected and what is found to be usual between achievement in educational tests and intelligence. In the following analysis many significant differences between IQ levels will be pointed out, and the moderate correlation will be helpful in interpreting these differences.

The following tabulation indicates the distribution of scores on the basis of grade placement:

Grade	Range	Median	Mean	P.E. of Mean	S.D.
8	25 to 128	83.5	81.16	1.024	21.14
9	19 to 128	94.0	91.24	.542	16.06
10	35 to 138	101.0	97.79	.969	17.73
11	64 to 136	103.0	102.99	.731	13.54
12	37 to 144	105.0	101.92	.598	17.25

ANALYSIS OF RESPONSE TO TESTS WITH SITUATIONS

CAUSES AND TREATMENT OF INFERIORITY

Response of Total Group

The first two sections of the test were concerned with the application of generalizations dealing with the causes and treatment of feelings of inferiority. The situation in the first section describes the case of a twelve-year-old girl who was unhappy and had obviously developed inferiority feelings due largely to undesirable family relationships. Section II describes the case of a fourteen-year-old boy who is similarly afflicted because of an unsatisfactory social status partly due to his short physical stature. The response of the total group tested is presented in the following tabulation:

Proce- dure	Positive	Test Item	Per Cent	Mean Per Cent
1	Developing humor	7	48.8	48.8
2	Development of self-reliance	10	67.3	67.3
3	Encouraging self-expression	10a	67.3	63.9
		16b	77.6	
		17c	52.1	
		31d	68.4	
4	Encouraging family coöperation in removing difficulty	13a	86.9	79.8
		14b	72.7	

Proce- dure	Positive	Test Item	Per Cent	Mean Per Cent
5	Development of assets and abilities	15a 23b	81.9 26.4	54.2
6	Development of a sense of security	16	77.6	77.6
7	Finding cause of difficulty	28	32.7	32.7
8	Development of self-confidence	30	14.9	14.9
9	Encouraging social adjustment	29	23.1	23.1
10	Calling attention to constructive factors	30 32	14.9 47.7	31.3
Negative				
11	Age discrimination	1	44.3	44.3
12	Sex discrimination	3a 11b	39.3 54.2	46.8
13	Limiting or depriving opportunity for family coöperation	2a 4b 6c	54.0 82.5 81.8	72.8
14	Limiting opportunities for self-expression	2	54.0	54.0
15	Decreasing or undermining sense of security	5a 18b	82.6 84.7	83.7
16	Encouraging overdependence and lack of self-confidence	8	55.9	55.9
17	Encouraging petty quarreling and family conflicts	8a 9b	55.9 59.4	57.7

The test items have been grouped according to various applications of the original generalization. It will be noted that the procedures have been numbered. In case several test items are included under one application, small letters have been used to permit further identification of specific test items. The percentage of group responses in agreement with the judges' ratings is included for each test item. In relation to applications embracing several test items, the range in the percentage may be regarded as a rough indication of the consistency with which the group responds to a given procedure. Thus, it will be noted that in relation to procedure 3 there is a range in the percentages in agreement with the judges of 52.1 to 77.6. A mean percentage has been computed as a rough measure of the extent of agreement of the group in relation to the specific procedures.

Slightly more than three-fourths of the group approved of positive applications for procedures 4 and 6, encouraging family coöperation in removing the difficulty and developing the sense of security as means of dealing with feelings of inferiority. Slightly more than two-thirds of the group would encourage the development of self-reliance.

Slightly more than half the group recognized the desirability of developing assets and abilities. Less than one-third of the pupils approved of measures designed to find the cause of the difficulty or to call attention to constructive factors. Less than half the pupils disapproved of age and sex discriminations which would be likely only to aggravate the situation. Slightly more than half of the group disapproved of measures which would limit opportunity for self-expression or encourage overdependence and family conflicts.

Sex Differences

The responses of boys and girls are presented in Table 2. It will be noted that the procedures are referred to by index only. Of the thirty-eight applications of procedure in terms of test items, there are eighteen significant differences. Only two of these differences are in favor of the boys, and curiously enough one procedure which discloses this difference is sex discrimination. The boys are less in favor of restricting the freedom of girls than are the girls themselves according to the responses made to this test item. The boys were also more in favor of procedure 9, encouraging social adjustment, in so far as they were more inclined than the girls to permit a boy who has been socially snubbed to give occasional parties.

Of the seventeen different applications of procedures represented in the items, there were six which did not discriminate between boys and girls, namely, developing humor, developing special abilities, finding the cause of the difficulty, calling attention to constructive possibilities, developing self-confidence, and age discrimination. Statistically significant differences indicate that girls seem to be able to apply generalizations somewhat more effectively than boys in relation to the following procedures: development of self-reliance, encouraging self-expression, encouraging family cooperation in removing difficulty, limiting family cooperation, limiting self-expression, undermining sense of security, encouraging overdependence, and encouraging family conflicts.

Differences According to IQ Levels

Table 3 indicates the percentage of responses in agreement with the judges' responses on the basis of intelligence ratings. When the items alone are considered, it is evident that there are statistically significant differences between the high and low levels for twenty of the twenty-eight applications of selected procedures. In twelve in-

Table 2
Test Responses According to Sex Differences

Positive													Negative					
Proce- dure	Test Item	Boys			Girls		Proce- dure	Test Item	Boys		Girls							
		Per Cent	Mean Per Cent	Mean Per Cent	Per Cent	Mean Per Cent			Per Cent	Mean Per Cent								
Causes and Treatment of Inferiority																		
1	7	47.2	47.2	50.3	50.3	11	1	41.6	41.6	48.4	48.4							
2	10	60.3	60.3	74.2*	74.2	12a	3	40.5	36.0	36.0	43.2							
3a	10	60.3	60.3	74.2*	74.2	12b	11	57.9*	49.2	50.4	43.2							
3b	16	70.6	70.6	84.6*	84.6*	13a	2	48.4	59.6*	59.6*	59.6*							
3c	17	43.2	43.2	61.1*	61.1*	13b	4	60.1	69.9*	69.9*	69.9*							
3d	31	61.2	58.8	75.5*	73.9	13c	6	78.2	85.5*	85.5*	71.7*							
4a	13	86.3	86.3	87.5	87.5	14	2	48.4	48.4	59.6*	59.6*							
4b	14	68.2	77.3	77.2*	82.4	15a	5	79.1	86.0*	86.0*	86.0*							
5a	15	79.9	79.9	83.9	83.9	15b	18	80.8	88.6*	88.6*	87.3*							
5b	23	26.8	26.8	25.9	54.9	16	8	46.6	46.6	65.4*	65.4*							
6	16	70.6	70.6	84.6*	84.6	17a	8	46.6	46.6	65.4*	65.4*							
7	28	35.4	35.4	30.0	30.0	17b	9	50.9	48.8	67.8*	66.6*							
8	30	15.4	15.4	14.3	14.3													
9	29	26.3*	26.3	19.8	19.8													
10a	30	15.4	15.4	14.3	14.3													
10b	32	44.7	30.1	50.6	32.5													
Emotional Control																		
18	41	34.9	34.9	57.0*	57.0	20a	38	72.9	74.3	88.6*	81.5							
19a	47	46.6	46.6	51.2	51.2	20b	43	81.9	77.4	82.2	82.2							
19b	48	47.7	47.7	52.8	52.8	21	42	76.2	76.2	46.9*	46.9*							
19c	50	48.9	48.9	56.4*	56.4*	22a	33	31.6	31.6	83.2	83.2							
19d	51	73.1	54.1	83.4*	61.0	22b	34	79.6	79.6	81.1*	81.1*							
						22c	35	65.9	53.7	56.6	56.6							
						22d	37	53.7										

*Favoring significant difference.

*Favoring significant difference.

Social Adjustment (Status of Child in His Group)									
27a	59	30.4	33.1	30a	53	57.8		51.6	50.4
27b	61	69.0*	48.8	30b	55	70.4*		31.9	52.3*
27c	66	46.1*	48.5	30c	56	51.1		49	34.5*
28	59	30.4	33.1	30d	57	76.8		52	21.2
29a	60	70.3	64.1	30e	58	55.0		36	48.8*
29b	61	69.0*	69.7	30f	67	77.7	64.8	44	58.1
				31	54	84.9	84.9	46	66.0
				32	65	30.4	30.4	45	87.5
				33a	63	48.0			
				33b	64	67.8	57.9		
				34a	56	51.1			
				34b	57	76.8			
				34c	58	55.0			
				34d	63	48.0			
				34e	68	58.6*	57.9		
									65.0
									46.9
									63.3*
									73.1
									66.0*
									89.0*
									59.6
									63.3*
									46.9
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									43.1
									63.3*
									73.1
									66.0*
									89.0*
									59.6
									63.3*
									46.9

***Favoring significant difference.**

Table 2 (Continued)
Test Responses According to Sex Differences

Test Responses According to Sex Differences											
Positive					Negative						
Proce- dure	Test Item	Boys		Girls		Proce- dure	Test Item	Boys		Girls	
		Per Cent	Mean Per Cent	Per Cent	Mean Per Cent			Per Cent	Mean Per Cent	Per Cent	Mean Per Cent
Causes and Treatment of Fear											
35a	72	13.4		13.9	38	69	53.6	53.6	51.7	51.7	
35b	70	60.0	36.7	64.4	39	70	82.2	82.2	90.2*	90.2	
36	77	6.9	6.9	6.0	40a	73	72.3		74.4		
37a	78	70.0		69.0	40b	75	66.7	69.5	68.1	71.3	
37b	80	46.7	58.4	51.0	41a	74	66.6		77.9*		
					41b	76	66.4	66.5	76.7*	77.3	
					42	71	47.3	47.3	63.6*	63.6	
Imaginative Lying											
43	87	50.2	50.2	57.5	44a	81	35.5		50.3*		
					44b	82	41.7		59.1*		
					44c	84	38.0		57.1*		
					44d	85	62.7		73.3*		
					44e	86	35.3	42.6	45.0*	56.9	
					45	83	29.4	29.4	34.7	34.7	
					46a	88	59.4		60.2		
					46b	89	53.3	56.4	64.6*	62.4	
					47a	90	14.2		21.1*		
					47b	91	62.2	38.2	72.8*	46.9	

*Favoring significant differences

*Favoring significant difference.

Table 3 (Continued)
Test Responses According to Differences in Intelligence

Proce- dure	Test Item	Group										Critical Ratio		
		A (IQ 110 and Above)			B (IQ 90 to 109)			C (IQ 89 and Below)						
		Per Cent	Mean Per Cent	Cent	Per Cent	Mean Per Cent	Per Cent	Mean Per Cent	Per Cent	Mean Per Cent	Per Cent	A and B	B and C	A and C
13a	2	61.8			45.4			27.4			S	S	S	
13b	4	70.1			65.6			51.3			I	I	S	
13c	6	87.8			74.1			61.0			S	I	S	
14	2	61.8	73.2		45.4	61.7		27.4	46.6		S	S	S	
15a	5	82.4	61.8		81.1	45.4		61.9	27.4		I	S	S	
15b	18	95.6	89.0		78.4	79.8		60.1	61.0		S	S	S	
16	8	58.8	58.8		56.4	56.4		46.9	46.9		I	I	I	
17a	8	58.8			56.4			46.9			I	I	I	
17b	9	65.2	62.0		55.8	56.1		43.3	45.1		I	I	S	
Emotional Control														
Positive														
18	41	54.9	54.9		45.1	45.1		36.2	36.2		I	I	S	
19a	47	55.4			40.2			41.5			S	I	I	
19b	48	59.8			48.5			38.0			S	I	S	
19c	50	56.9			46.0			45.1			I	I	I	
19d	51	80.4	63.1		67.4	50.5		63.7	47.1		S	I	S	
Negative														
20a	38	75.5			73.2			59.2			I	S	S	
20b	43	88.2	81.9		86.6	79.9		69.0	69.1		I	S	S	
21	42	84.3	84.3		79.9	79.9		55.7	55.7		I	S	S	
22a	33	52.9			38.4			26.5			S	I	S	
22b	34	90.7			83.8			67.2			I	S	S	

I indicates insignificant critical ratio; S indicates significant critical ratio.

I indicates insignificant critical ratio; S indicates significant critical ratio.

[illegible]

Table 3 (Continued)
Test Responses According to Differences in Intelligence

Proce- dure	Test Item	Group						Critical Ratio		
		A (IQ 110 and Above)		B (IQ 90 to 109)		C (IQ 89 and Below)				
		Per Cent	Mean Per Cent	Per Cent	Mean Per Cent	Per Cent	Mean Per Cent	A and B	B and C	A and C
		Group Companionship as a Factor in Social Adjustment								
Positive										
48a	95	79.9	75.6	67.0			I	I	I	I
48b	103	89.7	84.8	79.3	77.5	69.6	68.3	I	I	S
49	99	25.0	29.6	25.0	29.6	25.0	25.0	I	I	I
Negative										
50	93	98.0	98.0	95.7	95.7	82.1	82.1	I	S	S
51a	92	97.1	94.5	94.5		71.4		I	S	S
51b	94	70.0	68.9	68.9		46.4		I	S	S
51c	100	97.6	88.2	90.6	84.7	62.5	60.1	S	S	S
52a	98	89.2	77.7	77.7	73.9	59.8	57.6	S	S	S
52b	101	80.4	84.8	70.1	73.9	55.4	60.7	S	S	S
53	102	84.3	84.3	78.1	78.1	60.7	60.7	I	S	S
54	96	43.1	43.1	27.7	27.7	17.9	17.9	S	S	S
55	100	97.6	97.6	90.6	90.6	62.5	62.5	S	S	S
Causes and Treatment of Fear										
Positive										
35a	72	14.2	37.8	18.0	38.0	17.9	35.8	I	I	I
35b	79	61.3	57.9	57.9	38.0	53.6	17.9	I	I	I
36	77	5.9	5.9	8.5	8.5	17.9	17.9	I	I	I
37a	78	71.6	65.2	65.2	58.9	58.9	58.9	I	I	I
37b	80	42.7	57.2	48.8	57.0	45.5	52.2	I	I	I

I indicates insignificant critical ratio; S indicates significant critical ratio.

I indicates insignificant critical ratio; S indicates significant critical ratio.

[illegible]

stances there are such differences between the intermediate and low groups, and in seven instances between the intermediate and high groups. In relation to only three items were these differences between all three levels of intelligence. There were eight instances out of the total of twenty-eight possibilities in which no differences between even the high and low levels were disclosed. In terms of the seventeen different applications of procedures which are represented in the items, only four failed to discriminate between the IQ levels, namely, finding the cause of the difficulty, developing humor, encouraging social adjustment, and encouraging overdependence.

On the basis of this analysis it appears that brighter pupils are better able to apply generalizations relating to the causes and treatment of inferiority than dull pupils in relation to the following procedures: developing self-reliance, encouraging self-expression, encouraging family coöperation in removing difficulty, developing special abilities, developing a sense of security, developing self-confidence, calling attention to constructive possibilities, age discrimination, sex discrimination, limiting opportunities for family coöperation, limiting opportunities for self-expression, undermining the sense of security, and encouraging family conflicts.

EMOTIONAL CONTROL

Response of Total Group

The situation presented in Section III of the test describes the case of a three-year-old boy who had recently become very irritable. In the instance stated, he had become enraged as a result of having stumbled against a chair. The following tabulation presents the applications of procedures included in this section with the percentages of the total group who were in agreement with the responses preferred by the judges. It will be noted that considerably less than

Proce- dure	Positive	Test Item	Per Cent	Mean Per Cent
18	Withholding attention	41	45.9	45.9
19	Search for difficulty	47a	48.9	
		48b	50.3	
		50c	52.7	57.6
		51d	78.3	
	Negative			
20	Undue sympathy	38a	73.6	79.5
		43b	85.3	

Proce- dure	Negative	Test Item	Per Cent	Mean Per Cent
21	Unwise use of rewards, bribery	42	79.2	79.2
		33a	39.3	
		34b	81.4	
		35c	73.5	
22	Unwise punishment	37d	55.2	49.5
		39e	51.0	
		40f	42.1	
		49g	31.0	
		52h	22.7	
23	Ridicule	36	50.3	50.3
24	Threatening sense of security	44	62.7	62.7
25	Encouraging and excusing lack of control	46	72.8	72.8
26	Undue reliance upon heredity	45	90.9	90.9

half the group approved of withholding attention in relation to the temper tantrum. Four items represented an application of the generalization in the form, "search for the difficulty." Forty-nine to 78 per cent of pupils were in agreement with the preferred responses to these four items: an average of 57.6 per cent of the group would apply this procedure.

Several types of unwise punishment were included (for example, spanking, putting to bed at once, etc.); the percentages of group responses ranged from 23 to 81 with an average of 49.5 per cent who agreed with the judges as to the application of the procedure. Somewhat more than three-fourths of the group agreed as to the undesirability of undue sympathy and use of rewards in the situation. Only half the group disapproved of the use of ridicule, less than two-thirds disapproved of threatening the child's sense of security, and less than three-fourths of the pupils considered encouraging a lack of emotional control as a poor procedure. The fact that over 90 per cent of the subjects would not attribute lack of emotional control to heredity indicates that the generalizations concerned with the relative effects of heredity and environment in emotional control are functioning rather effectively in the thinking of high school pupils.

Sex Differences

Of the twenty test items included in this section of the test, twelve items discriminated in favor of the girls in terms of statistically significant differences in the percentage of responses (Table 2). There

were no differences in favor of the boys. Of the nine different applications of procedures, significant differences were disclosed in relation to every application of procedure but one, the unwise use of rewards. This may be interpreted as some evidence of greater ability on the part of the girls to deal with lack of emotional control in young children in so far as they recognize the implications of the following applications of procedures: withholding attention, search for difficulty, undue sympathy, unwise punishments, ridicule, threatening sense of security, encouraging lack of emotional control, and placing undue reliance upon heredity.

Difference in Intelligence

Table 3 indicates the response of the group according to three levels of intelligence. It is evident that of the twenty items included in this test all but four show some statistically significant differences in the percentage of responses between at least two of the intelligence classifications. Fifteen items discriminated between the high and low levels, ten between the intermediate and low levels, and five between the high and intermediate levels. Of the nine procedures included in this section only one failed to discriminate; there are no statistically significant differences in the responses of the groups in relation to the use of ridicule. Brighter pupils are more able than dull pupils to comprehend the implications of certain types of human behavior in relation to emotional control as measured by their responses to the procedures suggested in this section of the test.

SOCIAL ADJUSTMENT

Status of Child in His Social Group

Response of Total Group.—The situation included in this section of the test described a six-year-old boy who was not able "to hold his own" in his social group, but allowed other children physically inferior to him to appropriate his playthings against his will. The following tabulation indicates the procedures involved in the test items and the percentage of the total group who responded to each item in agreement with the judges.

On the average, slightly more than two-fifths of the group approved of encouraging aggressiveness in this situation, less than one-third would indicate disapproval of lack of aggressiveness, and less than two-thirds would try to explain the difficulty in terms which the child might understand. Slightly more than two-thirds of the group

Procedure	Positive	Test Item	Per Cent	Mean Per Cent
27	Encouragement of aggressiveness: Encouraging child to "hold his own"	59a 61b 66c	31.8 58.9 35.8	42.2
28	Expressing disapproval of lack of aggressiveness	59	31.8	31.8
29	Explanation of difficulty in terms understandable to the child	60a 61b	67.2 58.9	63.1
Negative				
30	Encouraging overdependence	53a 55b 56c 57d 58e 67f	59.0 66.6 58.9 82.9 57.3 81.6	67.7
31	Undue sympathy	54	88.3	88.3
32	Ridicule and humiliation	65	36.8	36.8
33	Unwise punishment	63a 64b	55.7 70.4	63.1
34	Limiting opportunity to learn to "hold his own" and to protect property	56a 57b 58c 63d 68e	58.9 82.9 57.3 55.7 52.8	61.5

disapproved of encouraging overdependence, and somewhat more than one-third disapproved of ridicule and humiliation. Less than two-thirds disapproved of unwise punishments and limiting opportunities for the child to learn how to "hold his own." Practically nine out of every ten pupils disapproved of undue sympathy.

Sex Differences.—In the twenty-one instances representing applications of procedures related to social adjustment, there were fourteen instances which show significant sex differences (Table 2). Five of these differences are in favor of the boys. Boys are evidently more favorable in their reactions to such positive procedures as encouraging aggressiveness and explaining the situation in terms which the child can understand. There were no differences favoring the girls in their response to the positive procedures. In three instances girls disapproved of encouraging overdependence to an extent significantly greater than the boys, although the difference was in favor of the boys in one instance. The same figures hold for the reaction of the boys and girls to the procedure "limiting opportunity to 'hold his own,'" the differences favoring the girls in three instances and the

boys in one instance. Differences favored the girls in relation to the procedures involving use of ridicule, undue sympathy, and unwise punishment.

In this section of the test, there is some evidence to indicate that boys are somewhat more able to apply generalizations in the form of positive applications than girls, although the differences disclosed in relation to the negative procedures are unquestionably in favor of the girls in almost every instance.

Differences in Intelligence.—In twelve instances out of the twenty-one specific applications of the various procedures there were significant differences between the high and low levels, in ten instances there were differences between the intermediate and low levels, and in seven instances between the high and intermediate levels (Table 3). In relation to three procedures (encouraging aggressiveness, expressing disapproval of lack of aggressiveness, and use of ridicule), there were no significant differences between any two levels.

The evidence indicates that pupils of high intelligence are better able to apply generalizations relating to social adjustment than are pupils of low intelligence.

Group Companionship as a Factor in Social Adjustment

Response of Total Group.—Section VII of the test described a case of a six-year-old girl who disliked to play with children of her age. The tabulation given below indicates the percentage of group response in agreement with the judges as to the importance of social adjustment and means of encouraging group companionship in an instance

Proce- dure	Positive	Test Item	Per Cent	Mean Per Cent
48	Encouraging or providing opportunity for social experience	95a 103b	78.3 82.0	80.2
49	Attempt to interest child in social activities	99	26.2	26.2
	Negative			
50	Discouraging forming social adjustments	93	94.4	94.4
51	Indifference to importance of compan- ionship	92a 94b 100c	92.5 66.7 90.0	83.1
52	Unwise punishment in forcing ad- justments	98a 101b	81.1 75.1	78.1
53	Establishing poor motive: bribery	102	78.9	78.9
54	Attempt to make child feel "inferior"	96	34.2	34.2
55	Undue reliance upon heredity	100	90.0	90.0

of this type. Approximately four-fifths of the group agreed as to the desirability of certain suggested means of encouraging social experience. Slightly more than one-fourth of the group recognized an attempt to interest the child in social activities (by watching other children at play) as a fair procedure.

The great majority of the total group disapproved of relying unduly upon heredity, exactly, as they did in responding to a similar procedure in relation to emotional control (pp. 200-201). In both instances, 90 per cent of the group would not rely upon heredity as a sole cause or an excuse for the specific difficulty. This merely substantiates the inference drawn earlier in this study, that generalizations concerned with the relative effect of heredity and environment are functioning rather adequately in the thinking of high school pupils.

More than 90 per cent of the group disapproved of steps which would discourage forming social adjustments. More than four-fifths of the group disapproved of indifference to the matter of social adjustment, and more than three-fourths of the group disapproved of using unwise procedures or poor motivation in bringing about social adjustments. Slightly more than a third recognized the undesirable implications of trying to make the child feel different or "queer" as a result of his idiosyncrasy.

Sex Differences.—Of a total of twelve instances representing applications of specific procedures in this test, there are eight significant differences in favor of the girls and one in favor of the boys. Table 2 contains a detailed picture of the responses according to sex. The girls agreed with the judges to a greater extent than the boys in their approval of measures designed to encourage social adjustment and their disapproval of the negative procedures listed in the table. The boys excelled in recognizing the procedure attempting to interest the child in social activities as a fair procedure. With this exception, the girls were more able to apply generalizations in relation to the encouragement of social adjustments than were the boys.

Differences in Intelligence.—Of the twelve instances in which the specific procedures were applied in the test, there were only two instances which revealed no significant differences on the basis of differences in intelligence. Table 3 represents a detailed account of the responses according to level of intelligence. Differences between the high and low levels are significant in ten instances, between the intermediate and low groups in eight instances, and between high and intermediate levels in six instances.

CAUSES AND TREATMENT OF FEAR IN YOUNG CHILDREN

Response of Total Group

The percentage of the total group who agreed with the judges in relation to certain procedures applied to causes and treatment of fear is shown in the following tabulation:

Proce- dure	Positive	Test Item	Per Cent	Mean Per Cent
35	Removal of possible causes	72a 79b	13.7 62.2	38.0
36	Attempt to reassure child	77	6.4	6.4
37	Positive conditioning to feared object	78a 80b	69.5 48.9	59.7
	Negative			
38	Ignoring fear	69	52.7	52.7
39	Use of fear as a means of control	70	86.2	86.2
40	Ineffective procedures failing to deal constructively with difficulty	73a 75b	73.4 67.4	70.1
41	Use of ridicule	74a 76b	72.2 71.5	71.9
42	Repressing fear	71	55.4	55.4

The situation in this case presented the case of a young child who is afraid of the dark. An average of less than two-fifths of the group approved of steps resulting in the removal of possible causes of the fear; three-fifths of the group approved of positive conditioning. Only one pupil out of sixteen recognized an attempt to reassure the child as a fair procedure. Slightly more than half the pupils disapproved of ignoring and repressing the fear. Less than three-fourths of the group disapproved of using ridicule and certain ineffective procedures failing to deal constructively with the situation. A high percentage of 86 for procedure 39 indicates that most high school pupils disapproved of using the fear as a means of controlling the child.

Sex Differences

As is indicated by Table 2, only four out of the twelve applications of procedures disclose significant differences between the boys and girls. These differences occur in relation to the following negative procedures: using fear as a means of control, the use of ridicule in treating fear, and repressing fear; these differences are in favor of the girls. There are no significant differences in relation to the posi-

tive procedures suggested in this test. The evidence in this section of the test is slight as far as it indicates any great differences between the sexes in applying generalizations related to the cause and treatment of fear in young children.

Differences in Intelligence

Of the twelve applications of procedures 35 to 42 in this test, there are only three which discriminate between any two levels of intelligence (Table 3). Pupils of high intelligence evidently recognized the undesirable implications of three negative procedures (ignoring fear, using fear as a means of control, and use of ridicule) to a somewhat greater extent than did pupils of low intelligence. Only procedure 38 discriminated between pupils of high and intermediate levels of intelligence.

IMAGINATIVE LYING

Response of Total Group

The following tabulation indicates the response of the total group to certain procedures which were presented in relation to a case of imaginative lying.

Proce- dure	Positive	Test Item	Per Cent	Mean Per Cent
43	Helping to check with reality without undue encouragement or discouragement of imagination	87	53.9	53.9
	Negative			
		81a	42.9	
		82b	50.4	
44	Attaching undue dissatisfaction	84c	47.6	50.5
		85d	68.0	
		86e	40.2	
45	Argument as to possibilities of story	83	32.1	32.1
46	Encouraging overuse of imagination	88a	59.8	59.4
		89b	59.0	
47	Unwise emotional appeal	90a	17.7	42.6
		91b	67.5	

Slightly more than half of the group agreed with the judges as to the procedure of helping the child to check with reality without undue encouragement or discouragement of imaginative activities. Approximately half the pupils disapproved of negative procedure 44,

attaching undue dissatisfaction (for example, severe punishments) to the instance. Less than a third recognized the inadvisability of arguments as to possibilities of the story, and less than three-fifths of the group disapproved encouraging overuse of the imagination. Slightly more than two-fifths of the pupils recognized unwise emotional appeal (for example, telling the child that his family won't love him any more) as a poor procedure.

Sex Differences

In eight instances out of the twelve specific applications of certain procedures in this test, there were statistically significant differences in favor of the girls. There were no differences in favor of the boys. From Table 2 it may be seen that these differences occur in relation to procedures 44, 46, and 47, indicating that girls recognized the implications of resorting to unwise emotional appeal, encouraging overuse of imagination, and attaching undue dissatisfactions to imaginative lying in greater proportions than the boys.

Differences in Intelligence

In five of the twelve applications of procedures in the test on imaginative lying, there are significant differences between the high and low levels of intelligence, in three instances there are differences between the intermediate and low levels, and in one instance between the high and intermediate levels. Table 3 indicates that these significant differences occur in relation to procedures 44, 46, and 47, the same procedures which discriminated between the boys and girls in this same test. Pupils of high intelligence are able to apply generalizations in the form of these procedures to an instance of imaginative lying to a much greater extent than pupils of low intelligence.

DISEASE PREVENTION: EXPOSING CHILDREN TO COMMUNICABLE DISEASES

Response of Total Group

The fact that high school pupils as a whole are aware of the inadvisability of exposing children to communicable diseases is indicated by their responses to the following test situation:

Seven-year-old Phillip's playmate, John, has a mild case of whooping cough. Check the procedures which Phillip's parents should follow:

Item	Description	Per Cent in Agreement
104	Expose Phillip to the disease so that he will catch it and get it over with.	93.4
105	Keep Phillip away from John until there is no danger of contagion	87.7
106	After explaining to Phillip the nature of John's illness, let him choose whether or not he wishes to play with John and run the risk of contagion	80.2
107	Scare him by telling him how terrible the disease might be and that he might even die if he should get the disease	81.0
108	Take unusual care to see that Phillip is in good physical condition and protect him from sources of contagion	89.3
109	Realize that whooping cough is a children's disease and therefore not sufficiently serious to make much difference whether Phillip gets it or not.	84.3

It is true that about one-fifth of the group was in favor of letting a seven-year-old child choose whether or not he should be exposed, while approximately the same proportion of the group would scare the child in their effort to prevent exposure. Slightly more than 15 per cent of the group approved of the indifferent point of view presented in item 109, that is, that whooping cough is a "children's disease" and not sufficiently serious to make much difference whether a young child contracts it or not. However, the percentages of responses in agreement are sufficiently high to provide some grounds for inferring that generalizations relative to the inadvisability of exposing children to communicable diseases are functioning in the thinking of the majority of high school pupils.

Sex Differences

As is indicated by the percentages included in the tabulation given below, there are significant differences in favor of the girls in two instances. Boys (approximately one-fourth of the total number of boys who took the test) approved oftener than girls of allowing the child to choose as to whether or not he shall expose himself, and also of scaring the child by describing terrible consequences of the disease.

Item	Boys	Girls
104	91.4	95.3
105	87.0	88.3
106	75.6	84.8*
107	74.1	87.8*
108	88.4	90.2
109	84.2	84.5

*Indicates significant difference.

Differences in Intelligence

The fact that intelligence is an important factor in the ability of high school pupils to recognize the implications of exposing children to communicable diseases is revealed by a comparison of the percentages in the following tabulation:

Item	A (IQ 110 and Above)	Group B (IQ 90 to 109)	C (IQ 89 and Below)	Critical Ratio		
				A and B	B and C	A and C
104	96.6	94.8	83.0	I*	S*	S
105	94.1	90.2	78.6	I	S	S
106	81.9	80.8	71.4	I	I	I
107	88.2	78.7	53.6	S	S	S
108	96.6	91.5	79.5	S	S	S
109	89.2	83.8	73.2	I	I	S

*I indicates insignificant critical ratio, S indicates significant critical ratio.

It will be noted that there are significant differences between the high and low levels in relation to five of the six items. The only item which did not discriminate to a statistically significant extent involves the matter of allowing the child to choose as to whether he shall expose himself to the disease or not. In four instances there are differences between the intermediate and low groups and in two instances between the high and intermediate levels. Differences are revealed in relation to all three levels in the responses to items 107 and 108, scaring the child and exerting care to see that the child is protected from contagion.

ANALYSIS OF RESPONSES TO TESTS WITHOUT SITUATIONS

FACTORS RELATED TO MENTAL DEVELOPMENT

Response of Total Group

The factors which high school pupils were asked to check as to whether, in general, they help, hinder, or have no effect upon mental development are shown below:

Item	Description	Per Cent in Agreement
110	Language development	84.5
111	Retarded (delayed) physical development	52.4
112	Habitual fatigue	75.1
113	Mother's intellectual activities before birth of child	20.2
114	Much and prolonged illness	88.1
115	Development of memory	84.3
116	Variety of developmental play activities	41.9
117	Repressing (discouraging) imagination	47.5
118	Stimulation (encouraging) of curiosity	77.9
119	Development of self-reliance	75.4
120	Wide and extensive reading	76.4
121	Lack of opportunity to explore widely in one's surroundings	65.0

It will be noted that, in general, pupils are fairly well aware of the positive effect of language development and the development of memory, also of the negative effect of much and prolonged illness. Only about three-fourths of the group agreed that the development of self-reliance, stimulation of curiosity, and extensive reading were aids and that habitual fatigue is a hindrance. Approximately one-half of the group considered retarded physical development and repressing imagination as generally detrimental to mental development. Only slightly more than two-fifths of the group recognized the helpfulness of developmental play activities. Only one-fifth of the total group appeared to appreciate the fact that the mother's prenatal intellectual activities had no effect upon the child's mental development.

Sex Differences

A comparison of the percentages of boys and girls in agreement with the judges is presented in the following tabulation:

Test Item	Boys	Girls
110	83.1	85.9
111	49.7	55.1
112	70.8	79.4*
113	25.0	25.3
114	87.2	88.9
115	84.2	84.3
116	39.2	44.6
117	48.6	46.4
118	77.7	78.1
119	74.7	76.2
120	72.7	80.1*
121	64.8	65.2

*Indicates significant difference.

It appears that sex differences are few in the ability of high school pupils to recognize factors affecting mental development. Of the twelve items included in this test, there are only two which disclose significant differences in the responses of boys and girls, items 112 and 120. Girls apparently recognized the hindering effect of habitual fatigue and the helpful effect of wide and extensive reading somewhat more readily than did the boys. Otherwise sex differences are insignificant in relation to this section of the test.

Differences in Intelligence

Differences in intelligence are many in the responses of high school pupils as to factors affecting mental development. There are signifi-

cant differences between the high and low levels in relation to every item in the test. Such differences occur in relation to seven items out of the twelve between intermediate and low levels, and in ten instances between the high and intermediate levels. Seven of the items discriminate between the high level and both the lower levels. The items which discriminated the least were developing self-reliance and repressing imagination. Details as to these differences may be studied in the following tabulation, which permits a comparison of the percentages of boys and girls who agreed with the judges in respect to the various items:

Test Item	Group			Critical Ratio		
	A (IQ 110 and Above)	B (IQ 90 to 109)	C (IQ 89 and Below)	A and B	B and C	A and C
110	91.7	82.3	71.4	S*	I*	S
111	63.7	47.6	32.1	S	S	S
112	94.1	70.1	39.3	S	S	S
113	54.9	18.3	12.5	S	I	S
114	95.1	87.8	63.4	S	S	S
115	92.7	80.2	61.6	S	S	S
116	51.0	35.4	30.4	S	I	S
117	55.9	44.2	31.3	I	I	S
118	88.7	73.8	53.6	S	S	S
119	77.9	72.6	59.8	I	I	S
120	82.8	71.3	56.3	S	S	S
121	76.0	62.2	42.9	S	S	S

*I indicates insignificant critical ratio; S indicates significant critical ratio.

FEAR VERSUS CAUTION IN RELATION TO DANGEROUS SITUATIONS IN THE CHILD'S ENVIRONMENT

Response of Total Group

Section X of the test consisted of a list of twenty-two items or incidents which are commonly associated with fear reactions. Pupils were asked to check each item under one of three categories—fear, caution, or neither fear nor caution—according to which of these responses they thought a child of three to eight years of age should be trained to make to the specific situation.

An examination of the following tabulation indicates that pupils did not agree with the judges to a marked degree as to the use of caution as a means of controlling dangerous factors in the child's environment:

Test Item	Description	Per Cent in Agreement
122	Playing with matches*	52.8
123	Teacher's authority	43.7
124	Death	44.1
125	Playing near water brooks, ponds, etc.*	67.3
126	Invitations to go riding with strangers*	38.1
127	Knives and sharp instruments*	53.9
128	Fire*	48.8
129	Climbing trees*	77.1
130	Horses*	67.6
131	Firearms*	46.0
132	Dogs*	57.8
133	Ghosts	73.9
134	Snakes*	54.4
135	Becoming involved in quarrels*	71.3
136	Policeman	70.0
137	Thunderstorms	60.5
138	God	60.8
139	Straying away from home*	50.2
140	Parental authority	46.1
141	Dark	72.0
142	Germs*	50.2
143	Goblins	78.1

*Judges agreed that caution should be exerted by the young child in relation to these items.

The highest amount of agreement is noted in relation to item 129, in the use of caution in climbing trees. The least amount of agreement occurs in relation to item 126, invitations to go riding with strangers; only 38 per cent recognized caution as a desirable response in this instance. The highest amount of agreement in relation to instances which children should be trained to respond with neither fear nor caution occurred in relation to the items of ghosts, goblins, and the policeman. Yet about one-fourth of the group felt that young children (three to eight years) should be trained to be either cautious or fearful even of these items. High school pupils appear to be unaware of the significance of fear in the training of young children and of the distinction between caution and fear.

Sex Differences

As is indicated in the tabulation below, there are a few significant differences in the responses of the boys and girls in relation to this section of the test. Girls agreed with the judges in training children to be cautious of "germs" and in training children to be neither cautious nor fearful in relation to teacher's authority, death, thunder storms, God, and the dark. Boys approved of the use of caution in relation to dogs to a significantly greater extent than girls.

Item	Boys	Girls	Item	Boys	Girls
122	52.3	53.2	133	72.8	75.0
123	37.3	50.1*	134	54.1	54.8
124	35.6	52.6*	135	72.0	70.6
125	66.3	68.3	136	69.1	70.9
126	39.5	36.7	137	56.1	64.9*
127	56.3	51.4	138	61.3	70.2*
128	47.5	50.0	139	51.4	49.0
129	74.2	79.9	140	37.8	54.3*
130	68.9	66.3	141	69.5	74.5
131	42.0	49.9	142	45.5	54.8*
132	62.7*	53.0	143	76.9	79.3

*Indicates significant difference.

Differences in Intelligence

Significant differences based on differences in intelligence were common in this test. Of the twenty-two items, there were only four which did not discriminate between pupils of high and low intelligence. Exactly one-half of the items discriminated between intermediate and low levels, and ten of the items discriminated between the groups representing high and intermediate levels of intelligence. There were only four items which did not discriminate on the basis of intelligence;

Test Item	Group			Critical Ratio		
	A (IQ 110 and Above)	B (IQ 90 to 109)	C (IQ 89 and Below)	A and B	B and C	A and C
122	62.3	47.9	35.7	S*	I*	S
123	57.8	39.6	32.1	S	I	S
124	51.5	36.6	22.3	S	S	S
125	80.4	58.8	40.2	S	S	S
126	42.7	36.3	32.1	I	I	I
127	58.3	47.6	36.6	I	I	S
128	55.9	39.3	29.5	S	I	S
129	85.8	74.4	49.1	S	S	S
130	69.6	66.5	62.5	I	I	I
131	47.1	43.0	32.1	I	I	I
132	57.8	57.6	51.8	I	I	I
133	84.8	70.7	29.5	S	S	S
134	58.8	56.1	35.7	I	S	S
135	74.5	69.2	58.0	I	I	S
136	77.9	68.9	40.2	I	S	S
137	66.2	54.9	28.6	S	S	S
138	72.1	71.3	45.5	I	S	S
139	55.9	47.3	40.2	I	I	S
140	57.4	40.9	30.4	S	I	S
141	80.4	68.9	40.2	S	S	S
142	53.9	52.7	29.5	I	S	S
143	85.8	76.2	43.8	I	S	S

*I indicates insignificant critical ratio; S indicates significant critical ratio.

these items called for the use of caution in relation to horses, firearms, dogs, and invitations to go riding with strangers. Further details may be studied in the tabulation on page 214.

TYPES OF DESIRABLE PLAY EQUIPMENT

Response of Total Group

In this test a series of articles was listed and the pupil asked to check what he considered, under ordinary circumstances, as highly desirable play equipment for the preschool child. The following tabulation presents the test items and the extent to which the total group agreed with the judges.

Item	Equipment	Per Cent Agreement
144	Sand box and sand	87.8
145	Mechanical merry-go-round	79.4
146	Cart	85.0
147	Blocks	83.0
148	Swing	47.1
149	Electric train	81.8
150	Wooden boxes	16.7
151	Plush covered animals and dolls	32.3
152	Celluloid doll	52.0
153	Cloth book	85.0
154	Large wooden beads	60.4
155	Air rifle	93.2

It is evident that few pupils considered an air rifle desirable play equipment for the preschool child. Almost half the pupils approved of the celluloid doll and two-thirds of them considered plush covered animals and dolls highly desirable under ordinary conditions. Approximately four-fifths of the group disapproved of the mechanical merry-go-round and the electric train.

A high percentage of the group recognized the desirability of the sand box and sand, the cart, blocks, and picture book. However, less than two-thirds of the group appreciated the desirability of large wooden beads, less than half approved of the swing, and about one-sixth of the group recognized the possibilities of wooden boxes as play equipment. These results furnish some evidence in support of the conclusion that there are several important generalizations relative to the characteristics of desirable play equipment for young children which are not functioning in the thinking of high school pupils.

Sex Differences

The following tabulation indicates in terms of percentages the extent to which boys and girls agreed with the judges.

Items	Boys	Girls
144	85.6	89.9
145	73.3	84.5*
146	80.9	89.0*
147	77.7	88.2*
148	42.0	52.2*
149	79.2	84.3
150	16.1	17.2
151	31.4	33.2
152	53.0	51.0
153	78.3	90.7*
154	50.8	70.1*
155	90.8	95.6*

*Indicates significant difference

There were significant differences in seven instances out of the twelve, each favoring the girls. It appears that girls appreciated the advantages, under ordinary conditions, of such equipment as blocks, the cloth picture book, the cart, and the swing to a greater extent than did the boys. The boys preferred the mechanical merry-go-round and the air rifle more frequently, in proportion, than the girls.

Differences in Intelligence

According to intelligence the group distributed itself according to percentages in agreement with the judges as is indicated in the following tabulation:

Test Item	Group			Critical Ratio		
	A (IQ 110 and Above)	B (IQ 90 to 109)	C (IQ 89 and Below)	A and B	B and C	A and C
144	90.2	94.5	66.5	I*	S*	S
145	89.7	82.0	64.7	I	S	S
146	90.2	87.2	66.1	I	S	S
147	87.3	86.0	72.3	I	S	S
148	49.1	50.3	37.5	I	I	I
149	92.2	84.2	63.0	S	S	S
150	22.1	15.6	12.5	I	I	I
151	42.7	27.4	23.7	S	I	S
152	61.8	53.7	43.3	I	I	S
153	93.6	89.0	64.3	I	S	S
154	71.1	66.5	50.9	I	S	S
155	98.0	96.3	81.3	I	S	S

*I indicates insignificant critical ratio; S indicates significant critical ratio.

It can be seen at a glance that there are several significant differences. Only two of the twelve items failed to discriminate between levels of intelligence. Ten of the items discriminated between the high and low levels, eight items between the intermediate and low levels, and two items between the high and intermediate levels. With the exception of items 148 (the swing) and 150 (wooden boxes), the test indicates that bright pupils recognize certain characteristics of desirable and undesirable play equipment more readily than dull pupils.

CARE OF THE BABY'S TEETH

Response of Total Group

Four items of the test (Section XII) were designed to determine the knowledge of high school pupils relative to the care of the baby's teeth. The responses are indicated in the tabulation below. Approximately 10 per cent of the group felt that the baby's first teeth should not be cleaned, or that a stiff, sturdy brush should be used. Slightly more than three-fourths of the group agreed that the first teeth should be cleaned with sterile cotton or cloth, while approximately two-thirds approved of using a soft brush only after the first eight or ten teeth have appeared. Although the majority of high school pupils appear to recognize the importance of cleaning the baby's teeth, there seems to be about one pupil out of every three or four who does not understand or fails to apply this generalization.

Sex Differences

In relation to three of the four items in this test, there are significant differences favoring the girls. Boys disapproved oftener of cleaning the baby's first teeth. Oftener girls approved of washing with sterile cotton or cloth and disapproved of the stiff, sturdy brush. Details as to the response of the sexes and the total group in terms of the percentages agreeing with the judges are presented in the following tabulation:

Item	Total Group	Boys	Girls
156	90.9	88.1	93.7*
157	78.9	75.2	82.5*
158	92.3	90.2	94.3*
159	62.7	63.6	61.7

*Indicates significant difference.

Differences in Intelligence

The fact that differences according to intelligence operate only slightly in this test is indicated by the percentages in agreement with the judges presented below:

Test Item	Group			Critical Ratio		
	A (IQ 110 and Above)	B (IQ 90 to 109)	C (IQ 89 and Below)	A and B	B and C	A and C
156	94.6	89.6	82.1	I	I*	S*
157	81.9	81.1	70.5	I	I	I
158	94.1	93.3	75.9	I	S	S
159	68.1	67.4	58.0	I	I	I

*I indicates insignificant critical ratio; S indicates significant critical ratio.

It appears that pupils of high intelligence recognize the desirability of cleaning the baby's teeth to a greater extent than do pupils of low intelligence. Brighter pupils, as indicated by significant differences between the high and low, and the intermediate and low groups recognize the undesirable characteristics of a stiff, sturdy brush for the baby more readily than do those of low intelligence. There were no significant differences in relation to items 157 and 159 which state the applications of procedures approved by the judges. In fact, the number of insignificant differences in this test is conspicuous, since there is a total of nine insignificant differences as compared with only three that are significant.

BUDGETING THE FAMILY INCOME

Response of Total Group

A series of five statements was submitted to high school pupils as a means of determining their opinion of the budget and the extent of family coöperation in making out the budget.

According to the responses of the group to this section of the test (see tabulation page 219), there were less than 5 per cent who maintained that a budget is a "nuisance" and that "it is impossible to live within its terms" (item 175). About one-fifth of the group considered it desirable that the person who earns the family income, usually the father, should make out the family budget (item 176). Over a third of the group were of the opinion that "since the mother does most of the buying she should make out the family budget" (item 177). More than four-fifths of the group agreed with the

judges that "ideally it is desirable for the family budget to be drawn up coöperatively by the father, mother, and older children" (item 178). About one-sixth of the group believed that as a rule it is preferable for the father and mother to draw up the budget without consulting the children, regardless of the age of the children (item 179).

High school pupils appear to be fairly well aware of the desirability of drawing up a family budget, although there is some confusion as to what extent the various members of the family should coöperate in this venture.

Sex Differences

The following tabulation includes a comparison of the percentages of boys and girls who agreed with the judges. Four of the items

Item	Total Group	Boys	Girls
175	4.3	6.9*	1.8
176	20.0	28.5*	11.5
177	35.5	37.5	33.6
178	83.2	79.4	87.1*
179	17.9	22.3*	13.5

*Indicates significant difference.

show significant differences between the sexes. The girls agreed with the judges on item 178 in greater proportion than the boys, while the boys preferred items 175, 176, and 179 in greater proportions. This means that boys do not appreciate the significance of budgeting the family income to the same extent that girls do, and that they are less favorable to family coöperation in drawing up the budget.

Differences in Intelligence

The per cent of pupils responding to the several items of the test according to the intelligence level is as follows:

Test Item	Group			Critical Ratio		
	A (IQ 110 and Above)	B (IQ 90 to 109)	C (IQ 89 and Below)	A and B	B and C	A and C
175	1.1	6.0	12.9	S*	I*	S
176	8.2	26.9	43.5	S	S	S
177	24.8	29.7	62.8	I	S	S
178	89.0	82.7	58.0	I	S	S
179	11.5	21.7	49.0	S	S	S

*I indicates insignificant critical ratio; S indicates significant critical ratio.

It can be seen that there are several statistically significant differences. Pupils of high intelligence are in higher agreement with the judges in this test than are pupils of low intelligence as is evidenced by statistically significant differences between the two groups in relation to every item of the test. There are significant differences between the intermediate and low groups in four items, and between the high and intermediate groups in three items. Pupils of higher intelligence are evidently more aware of the importance of budgeting the income and of the significance of family coöperation in this project than are pupils of low intelligence.

KNOWLEDGE OF SOURCE MATERIAL REGARDING CHANGES IN KNOWLEDGE IN CHILD DEVELOPMENT

The pupils were asked to list books, magazines, or publications of any kind in which one may find material regarding changes in knowledge of child development. The responses of pupils to this item were extremely rare. Many popular magazines of an irrelevant nature were listed, however, by those who attempted to respond to the test item. The following list indicates the extent to which appropriate responses were made:

Publication	Per Cent
Parents' Magazine	7.09
Hygeia	6.88
Child Welfare	1.72
Child Study	.62
Babies	.21
Child Development	.07

Publications of a more popular nature containing sections devoted to child development and child care were listed occasionally. These responses were distributed as follows:

Publication	Per Cent
Good Housekeeping	5.98
Woman's Home Companion	3.09
Ladies' Home Journal	3.30
Better Homes and Gardens	.69
Delineator	.48
Pictorial Review	.34

Since no publication was mentioned by more than 7 per cent of the group, no further analyses were made as to significant differences in particular groups. It is obvious from these results that, on the whole, high school pupils are unfamiliar with sources of material relating to child development.

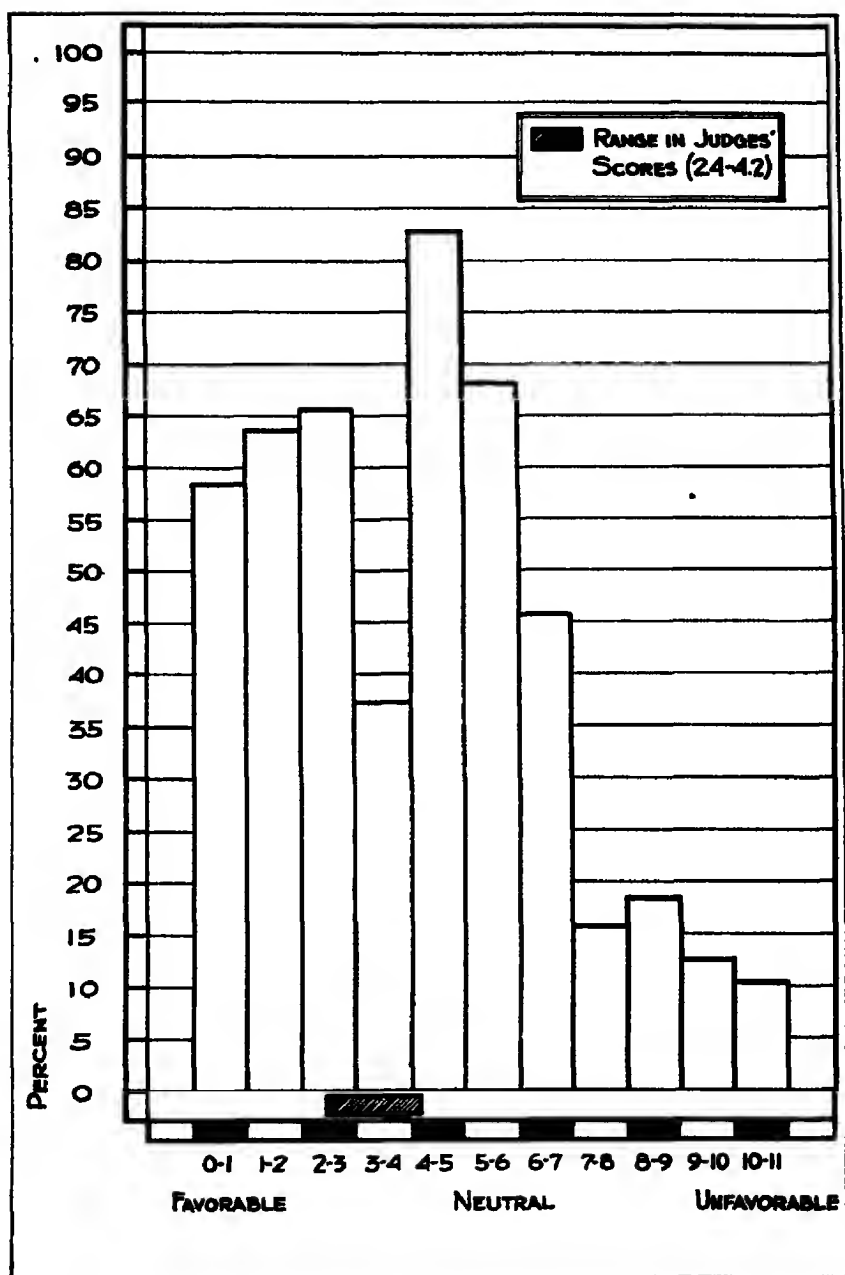


Figure 2 Attitudes of High School Pupils Toward the Family as an Agency for Personality Development.

PLACEMENT OF PUPILS ON ATTITUDE SCALES

The construction of attitudes by psychophysical techniques was described in Chapter III. Upon these scales it is possible to allocate to a given individual a position on an eleven point scale which permits a quantitative description as to that person's attitude toward a given situation. It is also possible to analyze the attitudes of a given group of persons on the basis of the extent to which certain opinions were supported by the group as a whole (Thurstone (5, p. 77)). In this investigation the latter procedure has been followed. High school pupils are distributed according to the relative amount of popularity of the various opinions which comprise the given scale. This distribution is compared to the distribution of ten judges who were asked to check on the scales those opinions which they felt represented an intelligent or mature attitude.

ATTITUDE TOWARD THE FAMILY AS AN AGENCY FOR PERSONALITY DEVELOPMENT

Response of Total Group

Figure 2 presents a graphic distribution of the high school pupils according to their attitudes toward the family as an agency for personality development. It also describes the extent to which the opinions of high school pupils deviated from the judges' scores. An examination of the graph indicates that there is a tendency for the opinions of high school pupils to be distributed widely on the scale. The judges' scores are concentrated from steps 2 to 4.

On the whole, however, there is a marked tendency for the opinions of the high school group to follow the same general trend as do those of the judges. A rough estimate as to the extent of agreement between judges and pupils may be derived from a comparison of the mean scale value for each group. These values were computed simply by dividing the sum of all the scale values checked by the total number of responses for each group. A comparison of the mean score for the pupils, 3.8, with that of the judges, 3.9, indicates that on the average there is practically no difference in the attitudes of the two groups. On the whole, high school pupils are just as favorable to the family as the judges believed they should be, although a certain proportion of them ascribed to more extreme attitudes than the judges. A detailed analysis of the attitudes of a given group in terms of individual responses is necessary in order to detect inconsistencies in

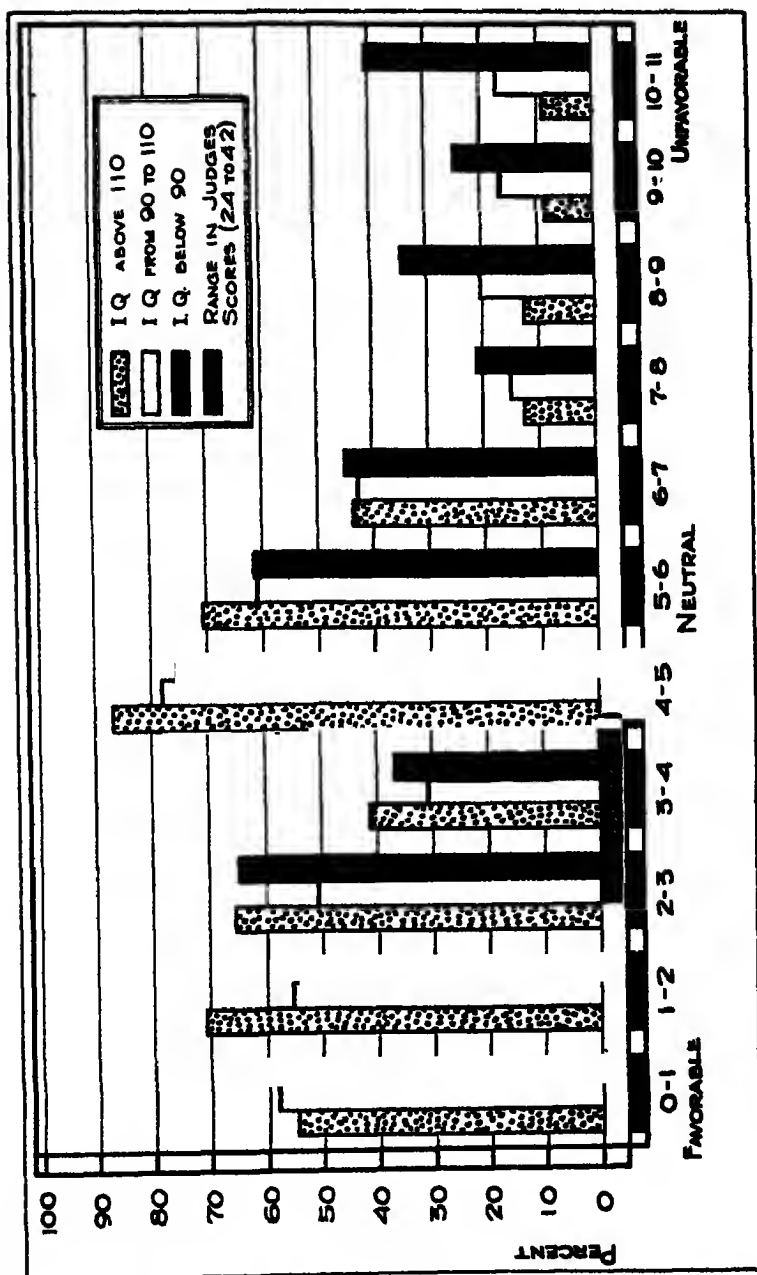


Figure 3. Attitudes of High School Pupils of Different Intelligence Levels Toward the Family as an Agency for Personality Development.

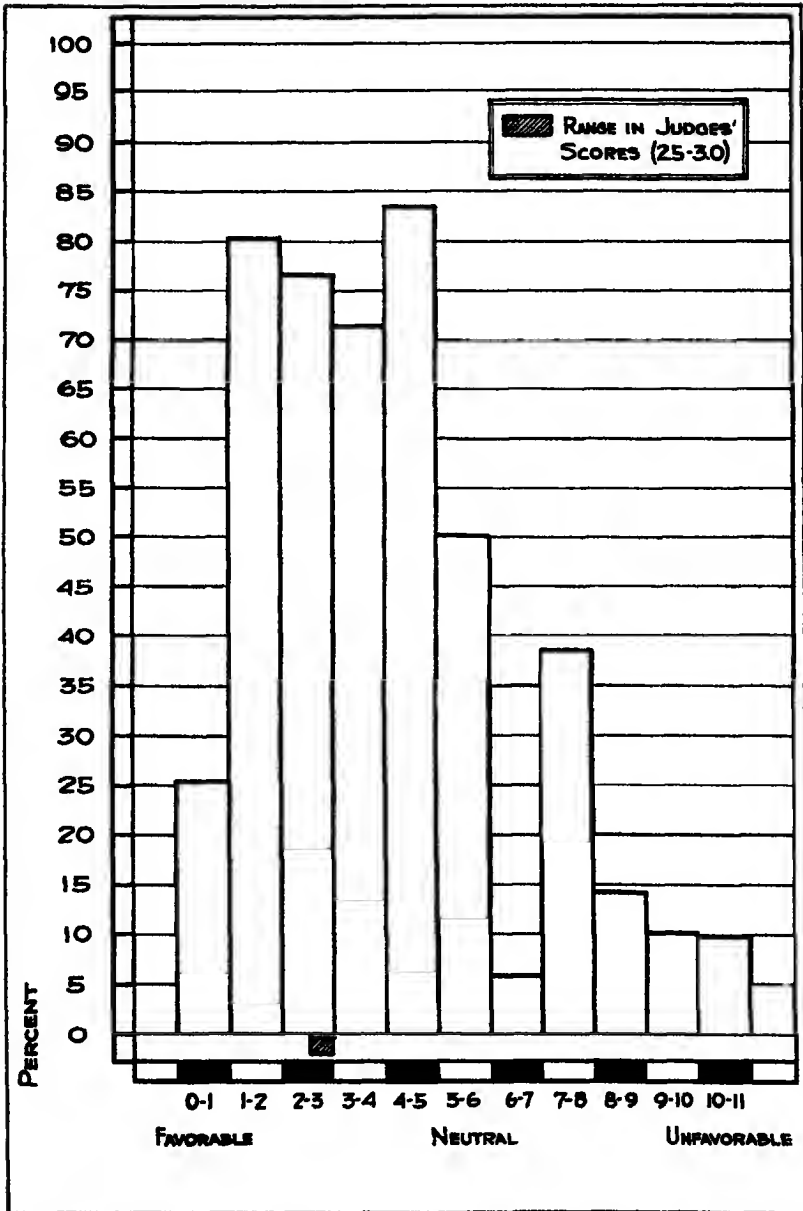


Figure 4. Attitudes of High School Pupils Toward the Father's Participation in the Care and Upbringing of Children.

attitudes or to determine the range of opinions which a given individual is willing to support.

Differences in Intelligence

Figure 3 indicates a tendency on the part of pupils of low IQ to favor opinions at the extreme negative end of the scale. Even though the number of subjects was considerably diminished for this section of the test, there are statistically significant differences between the high and low levels of intelligence according to their placement on the three last negative scale divisions, 8 to 11. There is also a statistically significant difference in the percentage of pupils of high and low intelligence for step 2 on the scale, the difference at this end of the scale favoring the brighter pupils.

Mean scores computed for the three levels of intelligence indicate a favorable attitude toward the family on the part of all three groups of pupils. However, these scores (3.9 for pupils of high intelligence, 4.0 for the intermediate group, and 4.4 for the low group) show a tendency on the part of dull pupils to approve of opinions giving less importance to the family as an agency in personality development

FATHER'S PARTICIPATION IN THE CARE AND UPBRINGING OF CHILDREN

Figure 4 indicates the average relative popularity of the statements presented pupils regarding the father's participation in the care and upbringing of children, and range of judges' scores. It will be noted that the pupils tended to approve of opinions at the unfavorable end of the scale to a greater extent than did the judges. The difference in the mean scores for each group, 4.4 for the high school pupils and 2.8 for the judges, indicates that, on the average, the high school pupils were somewhat more indifferent to the father's participation in the care and upbringing of children than were the judges.

VALUE OF PLAY

As is indicated in Figure 5, there is a predominance of pupils' responses on the favorable side of the scale. However, it is evident that there are opinions at the extremely unfavorable end of the scale which judges considered unintelligent opinions for high school pupils to hold.

A crude measure of the extent of agreement between the high

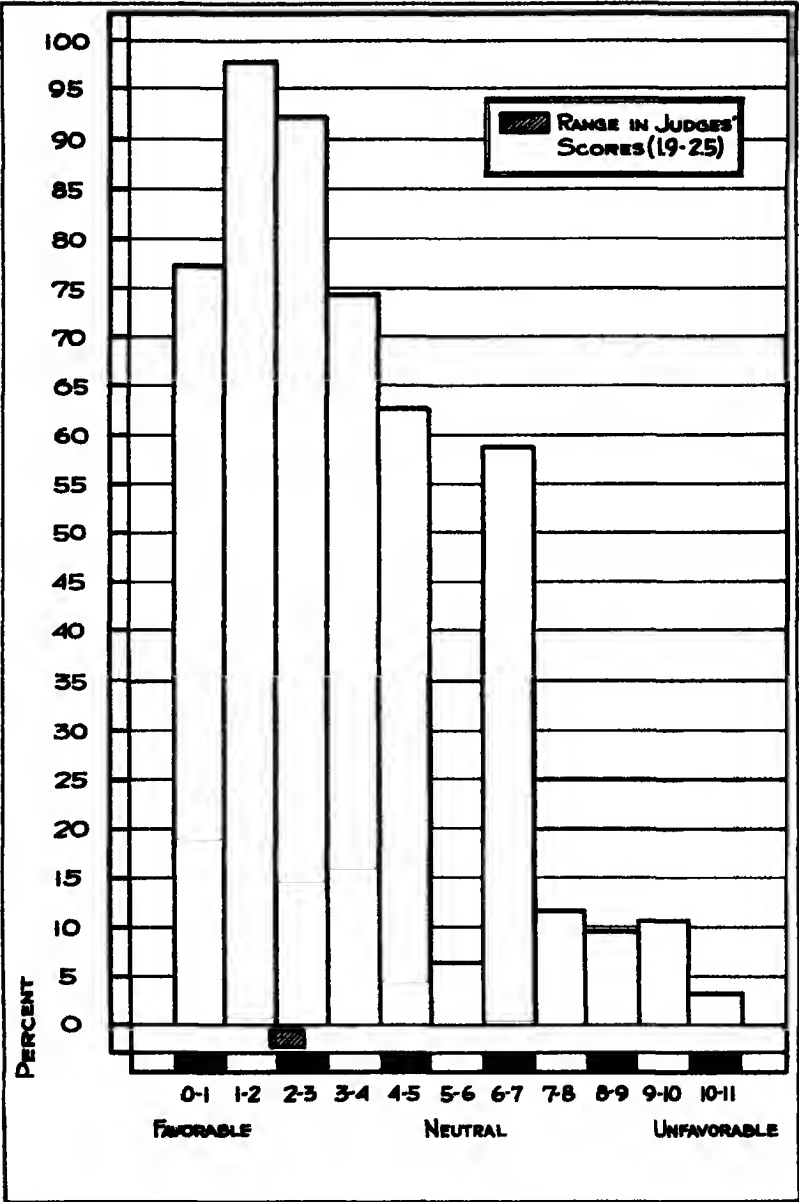


Figure 5. Attitudes of High School Pupils Toward the Value of Play in Child Development.

school pupils and the judges is derived in the form of a mean score for each group. The mean placement on the scale for the judges is 2.3, while that for the high school group is 3.4. This means that, on the average, the high school pupil is somewhat more than one step removed from the judges in his adherence to a more unfavorable opinion toward the value of play.

Although an analysis of responses reveals a great amount of inconsistency, on the whole high school pupils seem to be aware of the benefits which play activities may contribute to child development.

PUPILS' ATTITUDE TOWARD SELF-RELIANCE

Response of Total Group

A section of fifteen items was taken from the Ojemann self-reliance scale and administered to high school pupils. The scale was constructed by asking fifteen judges who were familiar with the physical, motor, and mental development of young children to indicate for several statements the ages at which the performance of certain specific acts would indicate a favorable attitude toward self-reliance, an unfavorable attitude, and a neutral attitude. On the basis of an average of the judges' estimates, an eleven point scale was constructed by dividing the age span on either side of the neutral zone into five equal intervals. The specific scale values for the fifteen items selected from this test are included in the Appendix

The scale was administered to ten judges who were familiar with the physical, mental, and motor characteristics of young children. These persons indicated the ages which they considered as indicative of an intelligent or mature attitude toward self-reliance. The judges' scores ranged from scale values 2 to 3 with a mean of approximately 2.5.

Figure 6 indicates the placement of the high school group. The fact that the mean score of the group falls at the scale value 8.8 or roughly at the middle of the unfavorable side of the scale, with a standard deviation of 3.04, indicates that high school pupils were not aware of the implications inherent in the items comprising this portion of the test.

Sex Differences

Sex differences in the scale are negligible as is evident from the fact that the mean scale value computed for girls was 8.9 with a

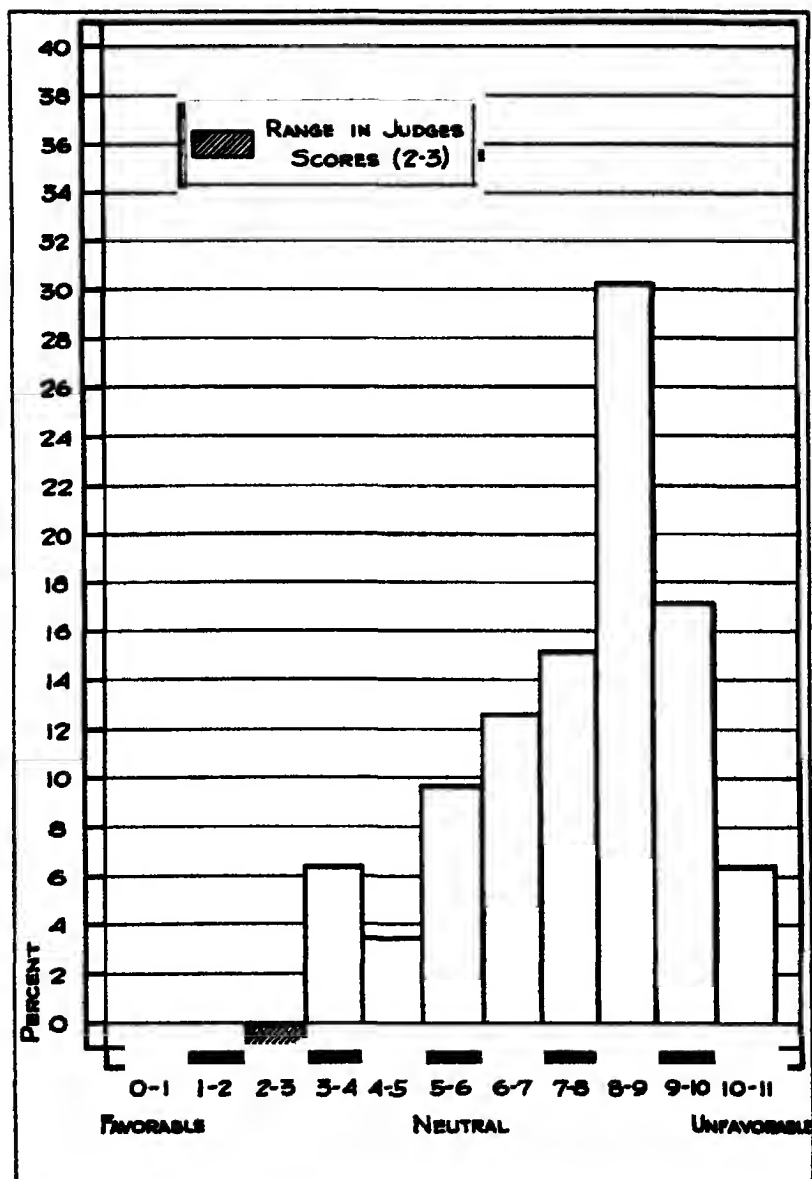


Figure 6. Attitudes of High School Pupils Toward Self-Reliance.

standard deviation of 2.9, while that for the boys was 9.0 with a standard deviation of 2.9. Both boys and girls placed on the unfavorable side of the scale.

Differences in Intelligence

The following tabulation indicates that differences in intelligence are not operative in the placement of high school pupils on the self-

Intelligence Quotient	Mean Scale Value	Standard Deviation
110 and above	9.1	2.9
90 to 109	9.1	3.0
89 and below	9.1	3.0

reliance scale. It may readily be seen that, on the average, all three groups placed on the unfavorable side of the scale.

These data furnish some evidence to support the conclusion that intelligence as a factor is relatively unimportant in the attitude toward self-reliance as measured by this test.

SELECTIVITY OF TEST ITEMS

An analysis was made of the knowledge of test items for the purpose of evaluating their effectiveness from the standpoint of selectivity. One purpose of the whole test was to distinguish different levels of achievement in terms of the extent to which the generalizations in child development and family relationships were functioning in the thinking of high school pupils. Just as the whole test ranks pupils according to the extent to which the generalizations are operative, theoretically each item of the test should rank them in the same order. An index of selectivity for the various test items may prove helpful in interpreting their relationship to a total measure of achievement. Such an index may be helpful in revising the test or selecting sections for a shorter test.

This statistical measure may be derived in the following manner: two frequency distributions may be made, one showing the total scores on the knowledge test for those pupils who respond to the item in agreement with the judges, and another showing the total scores of those pupils who disagreed with the judges in their responses. If there is a complete overlapping on the distribution of the scores of those who failed to agree with the judges on an item and those who agreed, there is no discrimination and the biserial coefficient of corre-

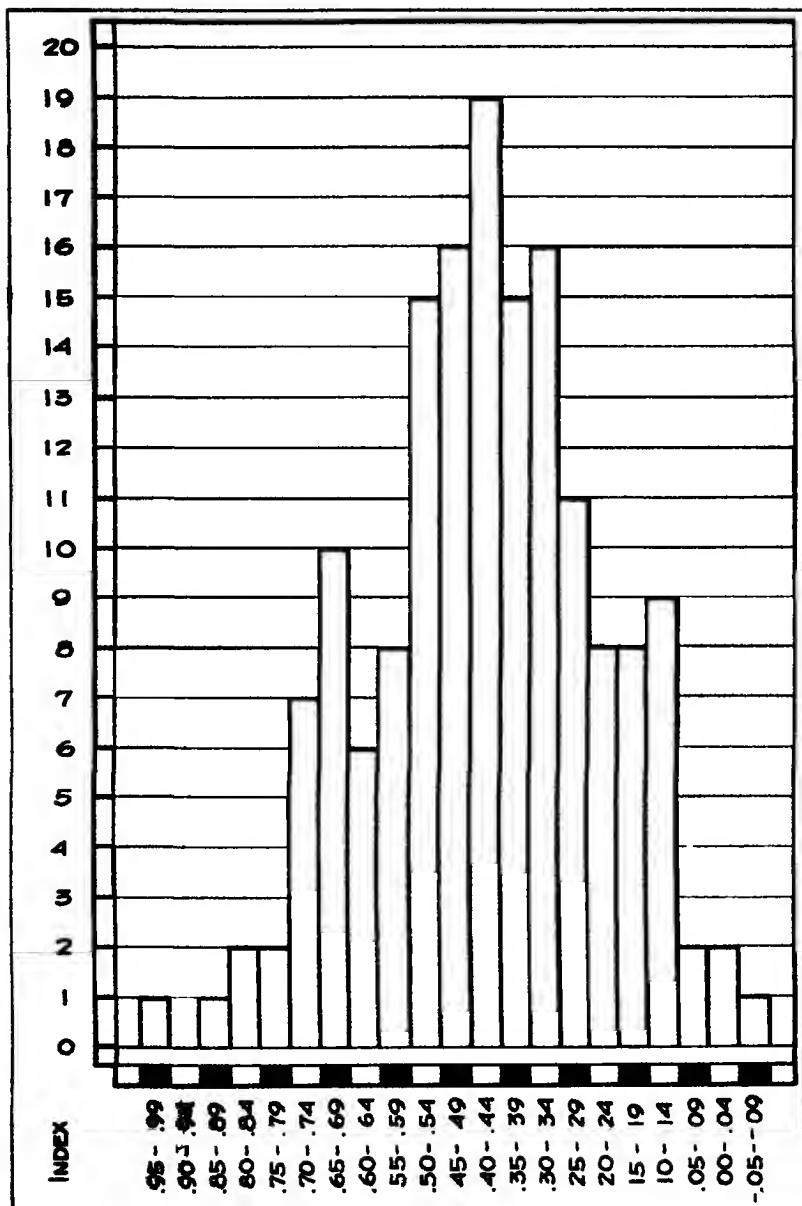


Figure 7. Distribution of Test Items According to Index of Selectivity.

lation will be zero. If there is no overlapping in distributions of scores between those who agreed and disagreed, the item is perfect in discriminating power and the biserial coefficient of correlation will be 1. An item to which all pupils agree or disagree with the judges does not discriminate. The biserial coefficient of correlation between the total score on the test and the responses agreeing with or failing to agree with judges to the individual items is a measure of the degree of overlapping for that particular item. A low index of selectivity indicates a poor item in relation to the total score on the test.

The coefficient of correlation as an index of selectivity is only a relative measure, since it may vary between a $+1$ and a -1 and since its numerical value depends upon the reliability of the whole test. Because of these characteristics of this index, biserial coefficients cannot be compared between items of different tests. The practical value of the index thus obtained is that it enables the reader to detect relatively good and poor items in the same test. Several factors may be responsible for a low index of selectivity. Among these are language ambiguities, vocabulary difficulties, or faulty content with regard to the psychological concepts represented within the test item. Figure 7 indicates the distribution of the various test items according to their discriminative power. Complete data indicating the index of selectivity for each item in the knowledge tests may be found in the Appendix.

SUMMARY

An analysis of the responses of high school pupils to the various test items reveals many important needs. Significantly large percentages of pupils apparently do not recognize the implications of important generalizations relating to such phases of child development and family relationships as emotional development, mental development, physical growth, social development, and play.

A comparison of the percentages of pupils' responses which were in agreement with judges' opinions indicates many significant differences between the sexes and also between levels of intelligence.

It may be inferred from these data that high school pupils as a whole fail to apply generalizations regarded as highly important in child development and family relationships, but that in general boys are less able than girls and dull pupils less able than bright pupils in this respect.

CHAPTER VI

BUILDING A PROGRAM OF LEARNING EXPERIENCES

The process of determining the needs of high school pupils in the field of child development and family relationships was described in Chapter IV. This program served to reveal the effectiveness with which certain important generalizations were functioning in the thinking of high school boys and girls. Chapter V presents the results of this investigation of needs and indicates that significantly large percentages of high school pupils are not aware of the generalizations, or are unable to recognize their implications as represented in the situations and responses which constitute the various items of the test.

Once the needs of the pupils have been diagnosed, the next step which confronts the curriculum maker is the construction of a program of learning experiences designed to meet these needs. In this project the curriculum maker must take into consideration certain characteristics of the learner as well as certain characteristics of the material to be learned.

In building a program of learning experiences, important generalizations relative to the learning process were studied and the following criteria for selecting experiences were considered:

1. It is desirable that learning activities have a high interest value for the learner.
2. It is desirable that the learning experience be of such a nature as to provide opportunity for the learner to recognize his own needs and the possibilities which may be derived from the learning experience with reference to his own development.
3. Learning experiences should offer opportunity for the learner to participate in a variety of activities representing various applications of the important generalizations.
4. Learning exercises designed to produce desirable changes in the learner must be valid.
5. The materials used in connection with learning experiences must be sufficiently complete to permit the learner to comprehend the implications of the involved generalizations in their full significance.
6. Simplicity of materials is highly desirable as a characteristic of effective learning experiences.
7. In developing attitudes, the attitude and zeal of the teacher are important factors.

In the present investigation it was learned, on the basis of voluntary information on the part of teachers and other officials who administered the test, that the reaction of pupils to the testing situation was such as to indicate the operation of criteria 1 and 2. Adequate learning experiences must bring into the consciousness of the learner certain ideals and concepts which may serve to create a sense of value from the learner's point of view—to cause him to identify these concepts with his own well-being.

It is true that some activities offer more possibilities than others from the standpoint of creating interest and a sense of need or value. Nevertheless, such phases of child development as physical growth may be made more interesting by the use of physical growth charts, lantern slides, and motion pictures of infants and children of different age levels and body types. Observation tours through preschool laboratories serve to arouse interest. The use of an observation blank and certain types of rating scales which call for recording overt behavior of the young child—his habitual reactions, his play activities, his emotional reactions, and his social behavior—serve to make the young child an object of immense interest to high school pupils. Lantern slides and a motion picture entitled "Our Preschool Children" are adapted to the purposes of the course as enrichment features and are especially pertinent to a study of the play activities of young children. Actual exhibits of toys and books with opportunities for examining these articles serve to create a more effective recognition and appreciation of desirable books and toys for young children of different age levels. A rating scale for toys may be especially useful not only as a learning device but also as a practical aid to high school pupils in their Christmas shopping for younger children.

In constructing learning experiences for a unit in child development and family relationships, an effort was made to provide for the learner a variety of activities of a specific character as indicated in criterion 3. Such activities should call for the participation of the learner in such a way as to make him aware of certain acceptable or unacceptable procedures, which in turn are applications of given generalizations that should be functioning in his thinking. Once the learner has participated in a certain number of these activities, it is assumed that he will begin to recognize certain factors common to a large number of situations involving similar elements. The desired generalizations will gradually become operative, in a somewhat more

abstract form, in his thinking and consequently in his adaptive behavior.

The learning experiences constructed for the high school course in child development and family relationships consist of activities of several different types. Reading materials, rating scales, observation blanks, and such visual aids as lantern slides, motion pictures, and photographs were included. Many exercises were put into the form of problems involving life situations, the discussion and solution of which comprised definite activities for the learner. All these exercises were constructed with the specific needs of the learner in mind in terms of the generalizations which should be functioning in his thinking.

Obviously, materials which are presented for creating desirable changes in the learner must be valid as specified in criterion 4. Here the validity of the original generalization was used as a standard. All materials recommended as reference reading were examined and checked for agreement with the standard. This criterion is of special significance in the selection of materials designed to assist the learner in acquiring knowledge, particularly that which is based upon research and scientific investigation. If the materials employed in teaching a generalization are not valid from the standpoint of the most highly refined data available, the learning activity may be futile.

In regard to the completeness of materials, care must be exerted to see that the generalization which is being taught or developed in each case has been reduced to a level which permits it to become meaningful to the student. For example, a generalization might state, validly enough, that books which create undesirable emotional responses on the part of the child should be withheld. Such a generalization must be expanded and extended to include a sufficient number of specific illustrations to give the student a basis upon which he may apply the broader generalization. Care must be exerted, however, to maintain a sufficiently high level of generality to insure efficiency in teaching.

Simplicity must be considered in the selection of materials. Such factors as vocabulary and sentence structure must be carefully inspected. Materials which do not meet the criterion of simplicity, even though they meet other criteria satisfactorily, cannot be used effectively for teaching purposes. Such materials must be modified or rewritten and presented to the learner in a form that will permit easy interpretation.

In the selection, editing, and preparation of materials, the following outline was established as a matter of convenience to serve as a guide in the organization of materials for teaching purposes. It is in no respect to be considered as an arbitrary course outline. It is merely a convenient topical arrangement of those phases of child development and family relationships under which the generalizations rated by judges as of high importance in the thinking of high school pupils may be arranged.

- I. Importance of child study
 - A. Need
 - B. Sources of material
- II. Physical development
- III. Mental development
- IV. Emotional development
 - A. Fear
 - B. Anger
 - C. Emotional control
 - D. Inferiority
- V. Social development
 - A. Self-reliance
 - B. Value of companionships
 - C. Group relationships
- VI. Play
 - A. Importance of
 - B. Characteristics of good and poor play equipment
 - C. Books and stories
- VII. Family relationships
 - A. Function of the family
 - B. Family adjustments

In the selection of materials for references and aids in the learning activities prescribed, several sources were consulted. The materials, which were analyzed and filed at the Iowa Child Welfare Research Station when the original generalizations were compiled, were examined for their possibilities. Government bulletins and Station pamphlets were examined for pertinent material. The few high school books in the field were evaluated carefully as to the contributions they could make as references. Some helpful materials were found—materials which were approved when examined on the basis of the seven criteria established. Materials were constructed for certain topics on which adequate matter on a high school level was not already available, for example, topics on self-reliance and inferiority.

Specific learning units were set up in connection with each of the above topics indicated by Roman numerals. References were recom-

mended or specially constructed materials were included, together with a set of learning exercises for each unit. In certain instances a foreword was written to the learner as a means of arousing interest and of causing him to become aware of the problem established. A complete copy of the learning program thus constructed is on file at the Iowa Child Welfare Research Station. Excerpts from the exercises are included in the Appendix.

Once the learning exercises were drawn up, the next step was to determine their effectiveness in teaching high school pupils. The procedure and results obtained for this project are presented in the following chapter.

CHAPTER VII

THE EFFECTIVENESS OF A PROGRAM OF LEARNING EXPERIENCES IN CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS FOR HIGH SCHOOL PUPILS

Several experiments were conducted to determine the effectiveness of the learning experiences. Certain practical considerations made it impossible to secure opportunities to administer the experiments to high school classes which included boys. Permission was secured from school superintendents, principals, and teachers to carry on the work in eight classes of girls.

Matched groups were used in four school systems where it was possible to administer the tests and use test scores as a basis for equating. In three experimental situations it was possible to equate groups on the basis of intelligence scores only. The justification of this procedure rests on the fact that there is a correlation of $.616 \pm .016$ between intelligence and achievement on the test and that the relationship between intelligence and ability to learn, especially where abstract materials are concerned, is mentioned rather widely in educational literature. It was assumed that groups equated on the basis of intelligence would be more nearly matched than if no equating measures were used.

In one school it was impossible to secure either of these equating measures. In this case the test was administered to a class of girls both at the beginning and at the close of the experiment. At the same time that the final test was administered to the experimental group, the remaining pupils in the same grade were tested and considered for comparative purposes.

Groups were equated whenever possible, since the opportunities for chance differences were thereby reduced. In other words, the reliability of the results is likely to be greater.

The population used in the experiment consisted of 305 pupils distributed as indicated in the following tabulation:

Experi- ment	Experimental Group	Control Group	Total	Equating Measure
I	25	25	50	Test
II	10	13	23	-----*
III	34	12	46	IQ
IV	12	15	37	IQ
V	15	15	30	IQ
VI	17	17	34	Test
VII	21	14	35	Test
VIII	24	36	50	Test
Total	158	147	305	

*School in which no basis for equating was available.

In experiments I, VI, VII, and VIII, groups were tested and equated as nearly as possible on the basis of the arithmetic means and standard deviations of test scores which were obtained before the unit was taught. For example, in experiment VI, the mean of the experimental group on the initial test was 100.8 with a standard deviation of 14.8. The mean of the control group was 100.8 with a standard deviation of 13.9. In experiments II, IV, and V, the groups were equated as nearly as possible on the basis of the mean IQ and the standard deviations of these distributions.

In the statistical interpretation of these data, the following formulas suggested by Lindquist (3) were used:

$$P.E._{diff} = \sqrt{(\overline{P.E.}_1^2 + \overline{P.E.}_2^2)(1-r^2)}$$

where P.E.1 and P.E.2 represent the probable error of the test means of the respective groups, and where r represents the Pearson product-moment coefficient of correlation between the measures used as the basis of matching and the measures between which the final computation of means is to be made.

$$P.E._{diff} = \sqrt{P.E._1^2 + P.E._2^2 - 2r \overline{P.E.}_1 \overline{P.E.}_2}$$

where P.E.1 and P.E.2 represent the probable error of the mean test scores in the initial and final test for a particular group and r as in the preceding formula.

In situations where the values of the correlation coefficient between the initial and final measures for the experimental and control groups varied, the formula developed by Wilks (3) was applied independently

$$P.E._m = \frac{6745}{\sqrt{N}} \sqrt{1-r^2}$$

to the mean of each group. The resulting values for the probable errors of the means were then substituted in the usual formula for the probable error of the difference.

$$P.E._{Diff} = \sqrt{P.E._1^2 + P.E._2^2}$$

The interpretation of these results must be subjected to a consideration of certain limitations. It is true that the numbers of cases in the particular groups are not large. In certain instances there are slight discrepancies in the values used in equating groups. However, these factors were considered in treating the data and the procedure seems justified when attention is called to the limitations inherent in the various situations.

It is also to be considered that there are many variable factors which are most likely to affect the results in the various schools. Variation in teacher zeal is a factor of high importance. Differences in interpreting learning experiences and in presenting learning materials are unavoidable, as are also differences in the amount of emphasis and time given to particular sections of the course.

The material used in the learning units and the learning experiences in the various groups were kept as nearly under control as possible by placing in the hands of each teacher and each pupil detailed learning programs for each topic in the course. As was indicated in Chapter VI, the learning experiences were of a very specific nature. Reports were filled out by the teachers as a part of the daily routine, indicating among other things specific topics discussed and the type of learning activity conducted (see Appendix). There is no reason to suppose that the teachers deviated to a marked degree from the procedures indicated in the learning program. Differences in teacher zeal were controlled to some extent as a result of providing specific learning activities and suggestions which were given by the author in personal interviews.

Table 4 represents the statistical data for groups equated on the basis of their scores in the preliminary test. The results obtained for groups equated on the basis of intelligence are also shown in Table 5.

In the case of experiment II, no equating measure was used. The class was very small, including only ten girls. The final test was administered to thirteen other pupils comprising the same grade at the conclusion of the teaching unit when the experimental group was tested. The results have been treated statistically, but interpretations must be made in full awareness of the limitations of the situation. Table 4 presents the statistical computations for this experiment.

Table 4
Results of Knowledge Tests for Groups Equated on the Basis of the First Test and Unequated Groups

Experiment	Group*	Pupils	First Test			Second Test			Between First and Second Test				Between Second Test of Each Group	
			Mean	Standard Deviation	Probable Error of Mean	Mean	Standard Deviation	Probable Error of Mean	Correlation	Probable Error of Difference	Critical Ratio	Probable Error of Difference	Critical Ratio	
Groups Equated on Basis of Scores in First Test														
I	E	25	97.3	13.5	1.8	128.0	8.6	1.2	.43	1.70	18.1	1.80	13.7	
VI	E	30	97.7	11.9	1.5	103.3	18.4	2.3	.80	1.80	3.1			
	C	17	100.8	14.8	2.4	125.1	13.0	2.1	.86	1.25	15.9	2.87	6.5	
VII	C	17	100.8	13.9	2.3	106.4	14.1	2.3	.71	1.75	3.2			
	E	21	99.3	11.0	1.6	122.6	10.8	1.6	.56	1.50	10.4	3.43	5.9	
	C	14	99.2	15.8	2.9	102.5	17.3	3.1	.94	1.06	3.1			
Unequated Groups														
II	E	10	110.4	13.2	2.8	126.4	10.4	2.2	.54	2.47	6.5	3.56	8.9	
	C	13				94.7	14.8	2.8						
VIII	E	25	105.6	13.7	1.9	132.1	4.9	.7	.72	1.50	18.3	1.50	17.5	
	C	21	105.8	13.9	2.1	106.5	14.1	2.1	.79	1.40	.4			

*E refers to Experimental Group; C refers to Control Group.

Table 5
Gains on Knowledge Test for Groups Equated on Basis of Intelligence

Experiment	Group*	Pupils	Intelligence Quotient		First Test			Second Test				Correlation Between Intelligence and Second Test		Between First and Second Test			Between Second Test of Each Group	
			Mean	Standard Deviation	Mean	Standard Deviation	Probable Error of Mean	Mean	Standard Deviation	Probable Error of Mean	Correlation	Probable Error of Difference	Critical Ratio	Correlation	Probable Error of Difference	Critical Ratio	Probable Error of Difference	Critical Ratio
III	E	34	107.4	11.4	107.3	11.4	2.03	119.5	13.29	1.55	.41	.50	1.84	.66	1.94	4.7		
	C	12	106.9	10.1				110.4	8.70	2.50	.62							
IV	E	12	101.4	13.1	109.3	11.6	2.30	119.1	14.20	2.80	.77	.84	1.50	6.5	1.94	5.4		
	C	15	101.3	11.4				108.6	10.10	2.60	.57							
V	E	15	99.7	10.1	100.8	9.5	1.66	132.4	7.00	1.22	.51	.51	1.48	21.4	3.40	9.8		
	C	15	99.9	9.2				99.0	12.60	2.20	.34							

*E refers to Experimental Group; C refers to Control Group.

INTERPRETATION OF RESULTS OF KNOWLEDGE TESTS

It will be noted that significant gains were made in all the experimental groups when measured in terms of the critical ratio between the actual difference and the probable error of the difference of the score means in the preliminary and final tests. The critical ratios computed on the same basis for the control groups did not show significant gains.

That the gains were significant and greater than could be accounted for by chance may be determined by a comparison of the results between the experimental and control groups on the basis of the probable error of the difference of their means. In each experimental situation, the critical ratios indicate a difference in favor of the group to which the program of learning experiences was administered.

IMPROVEMENT ON SELF-RELIANCE SCALES

Since the placement of pupils on the self-reliance scales definitely indicated an unfavorable attitude, a section of the teaching unit was devoted to the development of a more favorable attitude.

A measure of the effectiveness of this part of the unit was secured by equating groups on the basis of their initial placement on the scale and by determining the gains as indicated by their placement on the second administration of the scale. The same formulas for computing the probable errors of correlated measures were used in the statistical treatment of the groups which were matched on the basis of their initial scores. Since the numbers of subjects were small for individual groups matched on initial scores, the two groups, VI and VII, were combined for the purposes of this part of the investigation. Table 6 presents the statistical data. It will be noted that the gains made for the experimental group in relation to both the initial test and the scores of the control group are all significant. Also, the control group remained practically unchanged as far as mean scores are concerned.

The results for those groups equated on the basis of IQ are also presented in Table 6. Since the correlation between intelligence and scores on this scale were very low, ranging from .09 to .14 in the groups analyzed, it can readily be seen that the effect of such a low coefficient would make the use of the formula recommended by Lindquist (3) of little effect in indicating differences. In this case the more usual formula would probably be just as meaningful, although slight-

Table 6
Results of Attitude Scales for Groups Equated on the Basis of the First Test and Intelligence and Unequated Groups

Experiment	Group*	Pupils	First Test			Second Test			Between First and Second Test			Between Second Test of Each Group		
			Mean	Standard Deviation	Probable Error of Mean	Mean	Standard Deviation	Probable Error of Mean	Correlation	Probable Error of Difference	Critical Ratio	Probable Error of Difference	Critical Ratio	
Equated Groups**														
VI and VII***	C	29	78	161	20	78	190	23	59	30	00	24	196	
VII***	E	31	76	169	20	31	139	39	39	40	110	67	43	
III****	E	12	72	212	36	35	150	25	51	44	85			
IV****	C	34				64	257	51						
	E	15	85	223	42	27	137	28		51	114	41	111	
	C	12				72	187	30						
I	E	17	85	140	20	39	170	30	39	30	156	30	157	
	C	22	85	130	20	86	100	20	77	10	8			
Unequated Groups														
II	E	9	90	272	61	42	192	43		74	65	53	89	
VIII	C	13				89	177	32						
	E	24	86	140	20	35	120	20	13	30	196	40	111	
	C	32	85	160	20	74	260	30	74	40	29			

*E. refers to Experimental Group, C refers to Control Group

**Equated on Basis of First Test Scores and Intelligence

***Test as Equating Measure

****Intelligence Quotient as Equating Measure

ly favoring a more conservative statement of the true probable error of the obtained difference.

A comparison of the gains made by the experimental groups in relation to the control groups indicates significant gains for the groups which were taught.

SUMMARY

A comparison of the results obtained for experimental and control groups in relation to the effectiveness of a learning program in child development and family relationships indicates significant gains for the experimental groups. These gains are not confined to knowledge tests but are also significant in an analysis of results obtained on an attitude scale designed to measure attitudes toward self-reliance. It appears that the program of learning exercises designed to develop knowledge of important generalizations and maturity in attitude toward self-reliance in high school pupils is effective as indicated in a statistical analysis of the results of experimental and control groups.

CHAPTER VIII

SUMMARY

The needs of high school pupils in selected phases of child development and family relationships were determined as follows: An extensive list of generalizations relative to the physical, motor, mental, emotional, and social development of children; play; and the family were submitted to a group of judges. The judges were asked to rate on a three point scale the importance of each generalization from the standpoint of the thinking and behavior of high school students. This list was judged in the light of what constituted the most highly refined knowledge available at the time the judgments were made. The list is not to be considered as indicating the importance of each generalization in any permanent sense; obviously, the relative importance of the generalizations is likely to change with changes in the field of knowledge itself.

Persons were selected as judges who had a wide fund of knowledge in the field and were interested in the distinction between the functions of the parent and the functions of the expert. These persons were interested in the education of high school pupils, and were themselves actually engaged in the process of rearing children or assuming the responsibility for their development.

Objective tests, including knowledge tests and attitude scales, were constructed as measuring instruments for determining whether or not important generalizations were functioning in the thinking of high school pupils, and the extent to which certain attitudes were in agreement with what judges considered indicative of mature or intelligent behavior. The knowledge tests consisted largely of multiple choice items. Attitude scales were constructed by psychophysical techniques which may be considered a modification of the method used by Thurstone (5). The test was submitted to six judges to check the scoring key.

The battery of tests was administered to 1,586 high school students representing fourteen different communities in five states. An analysis of the pupils' responses was made item by item for the various

procedures in the knowledge test and for the various attitude scales. On the basis of this analysis the needs of high school pupils were analyzed.

A program of learning experiences was constructed in an effort to meet the needs of high school pupils as determined by administering the measuring devices. The criteria applied in the construction of these experiences included such considerations as interest value, variety, simplicity, validity, and completeness of materials.

With the cooperation of school superintendents, principals, and teachers eight classes of girls were made available for experimental purposes. In four of these situations it was possible to equate control groups with the experimental groups on the basis of the original scores assigned on the achievement test. Three groups were equated on the basis of intelligence. The experimental results of one group are included in this study together with results obtained for an unequated control group; in this school it was impossible to secure an equating measure.

An analysis of the data reveals the following results:

1. The coefficient of correlation for the judges' ratings of the generalizations relating to the particular aspects of child development and family relationships was computed by the Pearson product-moment method of chance halves and was found to be $.938 \pm .006$, indicating a fairly high degree of consistency in the judges' ratings.

2. The coefficients of correlation for the battery of tests ranged from $.893 \pm .011$ to $.935 \pm .0043$ for the several high school grades.

3. For the various test items, indices of selectivity were computed in the form of biserial correlation coefficients between the total scores of those subjects who agreed in their response with the judges on particular test items and the total scores of those who disagreed. These indices are available for purposes of evaluating a given test item in terms of its relationship to the test as a whole. They may be helpful in selecting various items from the battery for a shorter test to obtain a single measure of achievement.

4. The coefficients of reliability for the attitude scales constructed by psychophysical techniques were computed in terms of the probable error of the median scale value. The values derived for the scales used in this study ranged from .07 to .09 scale units.

5. An analysis of the test data indicated that significantly large percentages of high school pupils either did not know the generaliza-

tions represented in the various test sections or that they did not recognize the implications of the generalizations as applied in the test items to an extent that they were able to apply them.

6. The responses of high school pupils to attitude scales indicate that many of their opinions were beyond the range within which competent judges recognize intelligent or mature attitudes. The responses of high school pupils reveal much inconsistency in their attitudes toward the family as an agency for personality development, toward the extent to which they believe that the fathers should participate in the care and upbringing of children, and toward the importance of play in the development of the child.

7. There were many significant differences between the sexes in relation to the various sections of the test. The preponderance of these differences lies in favor of the girls.

8. Many significant differences between levels of intelligence were revealed. Without exception, the differences were in favor of groups of pupils with higher levels of intelligence.

9. A set of criteria was devised and applied in the construction of learning experiences designed to meet the needs of high school pupils as revealed in the preceding analysis.

10. Experimental groups to whom the series of learning experiences was administered consisted of eight high school classes. Seven of these classes were matched, the experimental and control groups being equated in four instances on the basis of initial test scores and in three instances on the basis of intelligence quotients. In each situation the experimental groups made significant gains as measured in terms of the critical ratios between the actual difference in the means of the groups and the probable error of the difference.

The data from this investigation indicate that there are many important generalizations relative to child development and family relationships which are not operating in the thinking of high school pupils. Although the needs are common to both sexes, there is some evidence that boys have less understanding of the important generalizations than girls.

Programs of learning experiences designed to meet these needs and constructed as they were in this study give much promise in respect to developing a knowledge of important generalizations and maturity in attitudes in child development and family relationships.

REFERENCES

1. Ackerley, Lois Alberta: The information and attitudes regarding child development possessed by parents of elementary school children. State University of Iowa, Unpublished Doctor's dissertation, 1933, Pp. c, 195.
2. Kefauver, Grayson N.: Need of equating intelligence quotients obtained from group tests. *J. Educ. Res.*, 1929, 19, 92-101.
3. Lindquist, E. F.: The significance of a difference between "matched" groups. *J. Educ. Psychol.*, 1931, 22, 197-204.
4. Ojemann, Ralph H.: The construction of a curriculum in parent education: I. The nature and source of objectives. II. Special problems relating to generalizations. University of Iowa, Unpublished Study.
5. Thurstone, L. L., and Chave, E. J.: The measurement of attitude: A psychophysical method and some experiments with a scale for measuring attitude toward the church. Chicago, Ill.: Univ. Chicago Press, 1929. Pp. xii, 97.
6. White House Conference on Child Health and Protection: Section IIIA. Education for home and family life: Part I. In elementary and secondary schools. Report of the subcommittee on pre-parental education. Anna E. Richardson, Chairman. New York: Century [c. 1932], Pp. xii, 124.

PART SIX

**THE EFFECTIVENESS OF A PROGRAM OF
LEARNING DESIGNED TO CHANGE PAR-
ENTAL ATTITUDES TOWARD
SELF-RELIANCE***

by

BLANCHE E. HEDRICK, M.A.

***This study was directed by Dr. Ralph H. Ojemann.**

THE EFFECTIVENESS OF A PROGRAM OF LEARNING DESIGNED TO CHANGE PAR- ENTAL ATTITUDES TOWARD SELF-RELIANCE

THE PROBLEM

The need for the measurement of the effectiveness of a learning program has been brought to the attention of the writer many times, particularly in connection with adult education in home economics extension work where accurate information regarding the effectiveness of specific teaching programs is for the most part not available.

Several aspects of changes may occur in the learner as a result of a series of learning experiences. The changes most frequently studied in the past are those relative to knowledge. But there may also be changes in regard to what the learner does and the attitudes he holds. Applied specifically to parent education we may raise such questions as these: Has he made any changes in his practices so that the best interest of the child is fostered more than it was previously? Does the parent have attitudes more favorable to the best development of the child than he formerly held? Likewise there may be changes of an emotional nature. All these changes may interact upon each other.

Changes in regard to attitudes, knowledge, and practices will be considered in this study. Emotional changes are important but there is a lack of adequate instruments for measuring them at the present time.

This study is an attempt to measure the effectiveness of a carefully constructed program of learning in changing the attitudes of parents toward the development of self-reliance in children. Upon analysis, it appeared that there were essentially two aspects to the development of a functioning attitude of this type: (1) the feeling and conviction of the importance of self-reliance and (2) a knowledge of the physical, motor, mental, emotional, and social development of the child to make possible the translation of the feeling of importance into action. Accordingly, the learning program contains experiences designed to develop a feeling of the importance of self-

IOWA STUDIES IN CHILD WELFARE

reliance and a knowledge of the development of the child. A mean score of 2.5 with a range of slightly over one scale step, made by a group of highly qualified judges on an attitude scale of eleven steps (1 highly favorable; 11 highly unfavorable) in a study by Ojemann (3), was taken as the objective toward which the learning program was directed.

The attitude test used in this study which will be described later consists essentially of a series of rather specific items; the subjects' responses are interpreted in terms of favorableness or unfavorableness to the development of self-reliance. In order to determine whether an attitude has been developed which will carry over into phases of development not specifically discussed in the learning program, all references to self-reliance in the teaching were restricted to four phases of the child's activity: eating, sleeping, toileting, and the use of clothing. An analysis of the data was made to determine whether the attitude carried over into other aspects of the child's life such as play, household tasks, use of money, and others.

Measures were also made of the changes in the parents' knowledge and practices relative to the child's development. These are included to give an indication of the effectiveness of the total program in addition to the changes in attitudes.

Thus the general plan of the study includes the following steps:

1. The construction of a learning program designed to develop a favorable attitude toward self-reliance. Four aspects of the child's activities were included: sleeping, eating, toileting, and the use of clothing.
2. The measurement of parents' attitudes, knowledge, and practices regarding the development of self-reliance in their children previous to the learning program.
3. The administration of the learning program.
4. Remeasurement of the parents' attitudes, knowledge, and practices in regard to the development of self-reliance in their children at the close of the course.
5. Analyses of data (1) to determine changes brought about in the parents by the learning experiences in regard to their attitudes, knowledge, and practices concerning the development of self-reliance in their children and (2) for a determination of carry-over in changes of attitudes regarding aspects of self-reliance not included in the teaching.

PROCEDURE

CONSTRUCTION OF THE LEARNING PROGRAM

The learning program for use with the groups of parents was devised on the basis of generalizations relative to the learning process. With these in mind, certain criteria were set up and followed in the

construction of the learning program. These were: (1) the program used must be interesting to the parents; (2) the materials must be valid, that is, in accordance with the best scientific knowledge available; (3) the program must have variety in order to give the parent a richness of relationships of the material presented; and (4) it must be within the difficulty level of the parent.

In order to insure the interest of the parent, the material was organized so as to help the parent see the value which such a program held for him. For instance, the first topic was based upon the principle of helping the parent see both the immediate and remote values which the development of self-reliance in children would have for both the parent and child. The ideas were brought out that developing self-reliance in the child gives him a feeling of self-confidence, of security and pride in his own accomplishments, and that it would aid him in solving his own problems and in learning to make his own decisions. Values to the parent were likewise considered.

In addition to discussions designed to develop a feeling of the importance of self-reliance in the preschool child, it seemed essential to include the important generalizations relative to different phases of the child's development.

The important generalizations in each phase of development were obtained from data supplied by Ojemann (5). He submitted extensive lists of generalizations to a group of carefully selected judges and asked them to rate each judgment on a three point scale as to its importance in the care and guidance of children. Generalizations receiving a rating equivalent to an average rating by all of the judges were included in the learning program.

The reading materials consisted of writings of prominent authors in the field of parent education and child development. All were checked for validity by the standard described by Ojemann (4).

Variety of methods used in the presentation helped to insure a richness of association which aided the parent in acquiring a more complete knowledge of the subjects being considered. Visual aids which would foster self-help, problems for consideration, records of observations made by the parent, concrete illustrations of means of developing self-reliance, and reading material with specific references were some of the ways in which these learning experiences were provided.

Teaching materials¹ included lesson outlines to be used by the leader, questions and problems for use in the discussion period in case they were needed to promote interest and discussion, reading lists and materials for the use of the members of the groups, and summaries of the topic discussions to be given to the members at the close of each discussion period. The summaries were given so that the members might have a brief outline for future reference which might help to alleviate forgetting.

The level of difficulty was assured by the selection of material and lectures which the parents could readily understand.

The program was divided into the following class meetings:

Meeting 1: Self-Reliance· What and why?

Meeting 2: The development of self-reliance in regard to eating and toileting

Meeting 3. The development of self-reliance in regard to sleeping and the use of clothing

Meeting 4· Physical and motor development

Meeting 5: Mental development of the child

Meeting 6: Social and emotional development

In arranging the order of presentation, it was thought best to teach the material regarding the phases of the development of self-reliance first in order to create interest in the subject, then to follow with those concerned with the child's development.

Teaching materials were rigidly held to four phases of the development of self-reliance included in the original plan, namely, eating, sleeping, toileting, and the use of clothing. Reading lists included only references to material concerned with these phases of self-reliance, and any question which came up concerning other aspects of self-reliance was sidetracked in as tactful a manner as possible. However, it was impossible to select books for reading with no reference to other phases of self-reliance, but such references were not included in the reading lists. All reference made to reading material was made in terms of specific assignments.

MEASURING INSTRUMENTS

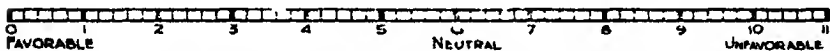
Three measurements of the parents were made both before and following the series of lessons. These included measurement of attitudes toward self-reliance, measurement of knowledge concerning the development of the child, and a measurement of practices in regard

¹Teaching materials are found in the Appendix of the manuscript copy on file at the State University of Iowa library.

to the development of self-reliance in eating, toileting, sleeping, and the use of clothing.

Attitude Scale

For measuring the parents' attitude toward the development of self-reliance, the Ojemann (3) self-reliance attitude scale was used. This scale was developed by adapting the psychophysical method to the measurement of attitudes. Essentially it is the allocation of an individual on a linear attitude continuum according to the opinion he rejects or accepts. The scale has a range of eleven steps, the unfavorable opinions falling at the higher level near the eleven end of the scale, the central zone on either side of six being neutral and the favorable opinions ranging near one. The scale appears thus:



For example an item in the test reads, "I feel that a child (whose capacity for development is near the average) is capable of undressing and going to bed alone after being told it is time to go to bed by the age of ----." A range of the ages when a child, whose capacity for development is near the average, can be expected to undress and go to bed after being told is arranged on the scale from favorable to unfavorable, each age having a scale value. The opinion, then, which the parent gives as the age when the child can be expected to do this is rated on the scale according to the age designated at the particular scale value where his opinion falls. His total attitude scale would be a composite average of his attitude ranking of all the items on the scale.

The test has a reliability coefficient of .96 at the preschool level obtained by correlating the odd and even items on the test and applying the Spearman-Brown formula.

While it is impossible to establish the validity of such a test without a very extensive investigation, it seems probable that it is measuring what is known as attitudes in the sense that opinions or what one thinks are attitudes. Whenever we ask a parent about the age at which he thinks that a child should be capable of undressing and going to bed when told to do so, we are seeking for his opinion or attitude since no one knows definitely when the child should be able to do this.

The investigator acted as teacher for the administration of the program, meeting all groups personally. She held an attitude score of 2.75 as measured on the Ojemann scale.

Knowledge Test

The knowledge of the parent in regard to the child's development was measured by a test built by the writer for use in this study. It is similar in nature to an objective achievement test of the type used for determining the achievement of pupils in school subjects. True-false items, best-answer type items, and identification items are included in the test. It was developed according to standards set up in a course in improvement of the written examination taken by the writer, and was subjected to criticisms of a number of graduate students who were building objective tests of the same type.

After being built, the test was submitted to five judges for criticism and marking. Some of the items were clarified and others omitted as a result of criticism by the parent education staff of the Iowa Child Welfare Research Station, two research assistants in parent education, and one graduate student in the parent education division of the graduate college of the State University of Iowa. Four were parents as well as persons informed in scientific knowledge of the child. Scoring of the test was based upon the markings of these five judges.

Parents' Practices

Parents' practices in regard to the development of self-reliance in their children were measured by a score card developed for this study by the writer. Jack (2) made a first attempt to measure parent practice in regard to efficiency in child rearing in the home. She used an interview form and a questionnaire as means of recording parent practices. Phillips (6) developed a technique for measuring parent practices in which he developed record blanks upon which the parent or other observer might record practices. Hanson (1), in a study of children's use of money, developed a method for scoring the practices of children in learning the use of money. In this study she used generalizations obtained from literature in the field of parent education and child welfare in regard to children's use of money as criteria for scoring. Each of her generalizations was carefully defined, and designation was made as to credit to be given for each point. This latter procedure was adapted by the writer for use in scoring

the practice of parents in regard to teaching their children self-reliance in eating, toileting, sleeping, and the use of clothing.

The author chose sixteen items for use in the score card. The items covered references to the development of self-reliance of the child in his eating, toileting, sleeping, and use of clothing habits. It was assumed that toileting included washing and combing as well as elimination. Each item was analyzed in detail to indicate the variety of ways in which the general principle for which the item stood might be met, allowing for the operation of the flexible scoring plan. The following items were selected for use in the score card:²

1. Is the child provided with suitable equipment for eating?
2. Is the child given an opportunity to feed himself?
3. Is the child given an opportunity to wait upon himself while eating?
4. Is equipment provided for the child to clean up anything he spills while eating or preparing his table?
5. Is the child made responsible for accidents while eating?
6. Is the child provided with suitable equipment for washing himself?
7. Is the child provided means for combing his own hair?
8. Is the child provided with suitable equipment so that he can wait upon himself at the toilet?
9. Is the child given responsibility for deciding when to go to the toilet?
10. Is the child given an opportunity to depend upon himself when going to bed?
11. Does the child get himself ready for bed either partially or wholly?
12. Does the child assume at least part of the responsibility for his own daytime nap?
13. Is the child provided with clothing which will facilitate self-help?
14. Is the child allowed to assist in undressing and dressing himself or allowed to do it entirely alone?
15. Is the child given an opportunity to have any part in the selection of clothing he is to wear on some occasions?
16. Is the child provided means for partly caring for his own clothing?

ORGANIZATION OF GROUPS

The selection of groups was made on a basis of nearness to Iowa City in order that they could be easily reached for teaching. It was expected, too, that members would be parents of preschool children since the program was planned with the young child in mind. Staff members of the parent education division of the Iowa Child Welfare Research Station gave the writer assistance in securing groups. They made preliminary arrangements for contacts with interested persons in each community and gave advice about plans for the organization of groups.

²The complete score card is given in the Appendix of the manuscript copy on file at the State University of Iowa library.

Four groups were secured with a total enrollment of sixty-three mothers, forty-eight of whom were used in the study. The others were dropped when analyzing data because of incomplete records. Only those cases were retained where both initial and final tests were obtained. All of those included in the study were mothers of pre-school children except three; the three exceptions were young married women who anticipated children. Age range of the mothers was from twenty-two to forty-seven, the mean age being thirty years. A total of eighty-three children were represented by the forty-eight mothers, making an average of 1.7+ children to each family. Of the eighty-three children, sixty-four were under school age. The distribution of children ranged from one to eight, twenty-seven families having only one child, ten having two children, four having three, and one each having four, five, seven, and eight children.

Three of the groups were composed of mothers living in small town communities. The fourth was a group of rural mothers. Groups were located in Marion, Oxford, Coralville Heights, and Sharon Center, Iowa. One group was regularly organized as a Mother's Club previous to the study, and all of its members were mothers of young children since this is one of the requirements for membership in the club. The other three groups were organized for the program developed in this study and only three mothers enrolled in them had ever attended child study groups at some previous time.

In three of the groups meetings were held in various homes of the community. The rural group met in the community high school building, which was centrally located and thus more easily reached by the mothers.

Meetings in all groups were held once each week until the series was complete. The first organization meeting was held on October 19, 1933, and the first regular meeting on October 25. Final meetings were held December 12, two on December 15, and the last on December 20. In three of the groups an extra meeting was held at which the final tests were given, and in one group the regular course was given in seven meetings instead of six, topic 2 being divided into two meetings. Thus a total of twenty-eight meetings was held in the four groups in addition to the four organization meetings. In one group the fathers attended the last meeting by special request, which the leader was happy to grant since it showed an interest in the meetings on the part of the fathers.

Attendance was exceptionally good considering the fact that all

of the members had young children, and many things were likely to interfere with attendance at meetings. The forty-eight mothers included in the study had an average of 5.1 meetings attended. Eighteen members did not miss a single meeting of the series.

Since the investigation was conducted in four different communities, it was not possible to secure an adequate control group. The learning program, however, was carried out in a relatively short period of time, and in no community was there special emphasis placed upon self-reliance during the experiment by other educative agencies such as newspapers, magazines, churches, or schools. Results of investigations in the Iowa Child Welfare Research Station have indicated that there is little or no practice effect on the attitude scale.

GIVING OF TESTS

The self-reliance test was given first, usually at the close of the general discussion of the first meeting. Then the knowledge test was given at the second meeting.

In the giving of both tests the members were presented with the mimeographed forms, given detailed instruction, and then asked to fill them out without conversing with each other. As much time as was needed was allowed for filling out each test. The time required ranged from twenty to forty minutes. Tests were collected and filed for scoring following the series of meetings.

The score cards for measuring the parents' practices were filled out by the writer by means of home interviews. Information was obtained by observations and conversation with the mothers. An average of about one and one-half hours was consumed in each interview since it seemed necessary to allow enough time so that the visit did not seem rushed.

In cases where there were two preschool children in the same home, the older child was selected for scoring as it was felt that this gave a better index of the parents' practices.

CHANGES PRODUCED IN THE PARENTS AS A RESULT OF LEARNING EXPERIENCES

CHANGES IN ATTITUDES

Scores from the forty-eight cases having both initial and final attitude measurements are found in Table 1. They show a mean attitude

Table 1
Changes in Attitudes, Knowledge, and Practices of Parents as a Result of a Learning Program

Group	Cases	Initial Scores			Final Scores			Changes			Certainty
		Mean	Stand- ard De- viation	Stand- ard Er- ror of Mean	Mean	Stand- ard De- viation	Stand- ard Er- ror of Mean	Differ- ence in Means	Stand- ard Er- ror of Differ- ence	Critical Ratio	
Attitudes											
1	18	5.28	1.32	.31	4.08	1.09	.25	1.20	.39	3.01	Practical certainty
2	9	7.50	.94	.31	6.45	1.28	.42	1.05	.52	1.98	98 chances in 100
3	11	6.32	1.18	.35	5.14	1.19	.35	1.18	.49	2.38	99.2 chances in 100
4	10	5.10	1.80	.57	4.25	1.59	.50	.85	.76	1.12	86 chances in 100
All	48	5.94	1.69	.24	4.81	1.55	.22	1.13	.33	3.41	Practical certainty
Knowledge											
1	18	29.60	4.02	.95	33.30	4.20	.99	3.70	1.37	2.70	99.7 chances in 100
2	9	29.30	3.53	1.06	33.90	2.64	.88	4.60	1.38	3.33	Practical certainty
3	11	31.50	3.94	1.19	34.50	3.13	.95	3.00	1.52	1.97	98 chances in 100
4	10	30.80	2.74	.87	33.30	2.76	.83	2.50	1.22	2.05	98.5 chances in 100
All	48	30.20	3.77	.55	33.70	3.46	.50	3.50	.74	4.73	Practical certainty
Practices											
1	18	140.85	46.95	11.10	194.10	48.60	11.40	53.25	15.90	3.35	Practical certainty
3	11	125.40	48.30	14.50	178.65	63.15	19.00	53.25	23.90	2.23	98.7 chances in 100
4	10	114.00	36.90	11.70	174.00	60.00	18.90	60.00	22.20	2.70	99.7 chances in 100
All	39	129.60	46.35	7.40	184.75	56.70	9.10	55.15	11.70	4.71	Practical certainty

Table 2
Comparison of Groups in Changes Brought About by the Learning Experiences According to Age, Number of Children, and Location

Group	Cases	Mean Age, Years	Mean Number of Children	Changes Produced in Learner								
				Attitudes			Knowledge			Practices		
				Initial Mean	Final Mean	Critical Ratio	Initial Mean	Final Mean	Critical Ratio	Initial Mean	Final Mean	Critical Ratio
1*	18	28.8	1.7	5.28	4.08	3.01	29.6	33.3	2.70	140.85	194.10	3.35
2*	9	28.6	1.1	7.50	6.45	1.98	29.3	33.9	3.33			
3*	11	30.5	1.2	6.32	5.14	2.38	31.5	34.5	1.97	125.40	178.65	2.23
4**	10	34.2	3.4	5.10	4.25	1.12	30.8	33.3	2.05	114.00	174.00	2.70
All	48	30.5	1.7	5.94	4.81	3.41	30.2	33.7	4.73	129.60	184.75	4.71

*Location, small town.

**Location, rural.

ranking on the attitude scale with a standard error of the difference in means of .331. This gives a critical ratio of 3.41 indicating practical certainty that a significant change in attitude occurred as a result of the teaching series.

In interpreting the initial score it must be remembered that the attitude test was given at the close of the first meeting. There is a possibility, therefore, that it may be somewhat nearer the favorable side of the scale than would have been the case had the test been given prior to the discussion. Some evidence to support this possibility is found in the fact that large unselected groups of parents average approximately 6.60 on the scale, whereas this group averaged 5.94.

While a comparison of groups is unwarranted from the standpoint of numbers, it is interesting as indicative of possible trends. Comparison of groups according to the amount of change brought about in attitudes in connection with average age, number of children, and location of the groups is shown in Table 2.

It is interesting to note that the rural group (Group 4), having the largest number of children and the highest average age, registered a more favorable attitude score at the first testing than did any of the other three groups. This may suggest that rural people and people with larger families hold a more favorable attitude toward self-reliance in their children, since there are so many tasks always needing to be done and children may be expected to learn to do them earlier under these conditions than in the homes of parents who live in the small town community.

Data were also analyzed in regard to changes brought about in attitudes in the specific phases of self-reliance which were taught in comparison with changes in other aspects of the child's activities which were not taught. The comparison was made in order to determine whether learning had carried over into these other activities. The test items were divided into "items taught" and "others" and average scores made according to this classification. The test was found to contain twenty-five items relating to the child's eating, toiletting, sleeping, and use of clothing which were included in the teaching, and twenty-seven others such as the use of money, play, crossing the street, answering the telephone, performing household tasks, etc. This analysis is found in the following tabulations:

Items	Mean	Standard Deviation	Standard Error of Mean
Initial Scores			
Taught	6.09	1.65	.24
Others	5.82	1.88	.27
Final Scores			
Taught	4.88	1.65	.24
Others	4.63	1.77	.25
Items	Mean	Standard Error of Difference	Critical Ratios
Differences			
Taught	1.21	.34	3.56
Others	1.19	.38	3.13

The data show that a change of attitudes was obtained not only in regard to the items taught but also in the others. There was a difference between the initial and final mean scores of 1.19 for the "other" items as compared with 1.21 for those taught. These give a critical ratio of 3.13 and 3.65 respectively.

This phase of the analysis is particularly interesting because it tends to indicate that a type of change is functioning in the behavior of the parents which spreads from one activity to another. A general attitude appears to have been developed which carries over from specific items taught to items not considered in the teaching.

An analysis of the attitude scores was made on the basis of age. The scores of the members ranging in age from twenty-two to twenty-nine were compared with the scores of the members ranging in age from thirty to forty-seven. Results of this analysis showed no significant difference as is shown in the following tabulation:

Age Range, Years	Cases	Attitude Scores		
		Initial Mean	Final Mean	Differ- ence in Means
22 to 29	25	5.86	4.74	1.12
30 to 47	23	5.98	4.90	1.08

The difference between initial and final means was 1.12 for the younger group and 1.08 for the older.

CHANGES IN KNOWLEDGE

The parents' knowledge relative to the child's development increased significantly as shown by the data in Table 1. A rise of 3.5 points was found in the mean scores from the initial to the final

tests with a standard error of difference in means of .74. This gives a critical ratio of 4.73.

Group 2 made the greatest gain, raising their scores on the average of 4.6 points from initial to final tests. Here again Group 4, the rural group, made the least gain in scores with a rise of 2.5 points.

CHANGES IN PRACTICES

Since lack of time made it impossible to obtain initial scores in practices for Group 2, the measurement in changes which took place in parents' practices as measured by the score card is known for only thirty-nine cases. These thirty-nine cases, however, show an average increase in practice scores of 55.15 points, with a standard error of the difference in initial and final means of 11.7. Table 1 gives these data. Thus a critical ratio of 4.71 was obtained, indicating practical certainty that significant changes occurred in the practices of the parents in the development of self-reliance in eating, toileting, sleeping, and the use of clothing in their children.

It is interesting to note here that some of the changes in practices were not likely to be made immediately as considerable time is necessary to bring them about. An example of this appears in items relative to the children's clothing. In a large number of cases, the clothing was of the type which does not foster the development of self-reliance in the child. A change would often involve the making of new apparel in order to facilitate self-help for the child. This involves time. There is, therefore, a possibility that this phase of the parents' practices did not register much change during the short time elapsing between measurements.

An analysis of the changes in practices shows that the greatest change took place in toileting. This involved added facilities, such as providing the child with his own wash cloth and towel, placing these within his reach, giving him a comb of his own and a place to keep it, providing a low mirror, and making a stool on which he could stand while washing his face and hands. One mother of a four-year-old girl remarked, "I didn't realize I was hindering my child's development by washing and dressing her. I liked to do it and it saved time, so I thought no more about it."

Many mothers reported fixing chairs at a more suitable height for use at the table, providing foot and back rests on chairs, and making it possible for the child to get in and out of his own chair. Others

succeeded in teaching the child to wait upon himself at the table. Some provided small pitchers for the child to pour milk. Others allowed him to help himself to certain foods, cut his own meat, clean up any food he spilled, and in other ways learn to depend upon himself in eating.

SUMMARY AND FINDINGS

The purpose of the investigation is to measure the effectiveness of a carefully constructed program of learning in changing the attitudes of parents toward the development of self-reliance in children. The learning program contained experiences designed to develop a feeling of the importance of self-reliance and a knowledge of the development of the child. It was hoped that the program would result in a translation of this feeling of importance into action.

Attitudes were measured previous to the teaching program and again following it, using the Ojemann self-reliance attitude scale which contains eleven steps (1 highly favorable; 11 highly unfavorable).

In order to determine whether an attitude had been developed which would carry over into phases of development not specifically discussed in the learning program, all references to self-reliance in the teaching were restricted to four phases of the child's activity: eating, sleeping, toileting, and the use of clothing. Data were analyzed to determine whether the attitude developed carried over into other aspects of the child's life such as play, performance of household tasks, use of money, and others.

Measures were made of changes in the parents' knowledge relative to the child's development and of changes in practices in order to give an indication of the effectiveness of the total program in addition to changes in attitudes.

Four groups of parents of preschool children totaling forty-eight in number served as subjects for the study. Groups were located in three small towns and in one rural community, all of which were within easy traveling distance from the State University of Iowa at Iowa City. Only three of the forty-eight mothers had previously attended child study classes directed by trained leaders. The average age of the parents was 30.1+ years. A total of sixty-three preschool children were represented in the forty-eight families.

Groups met once each week for a series of six meetings, time and place being arranged with consideration for the convenience of the

group. Attendance averaged 5.1 meetings per person, with eighteen members having perfect attendance.

The program of learning was developed by applying the known generalizations relative to the learning process. Problems for discussion, reading material with definite references, visual aids, and specific illustrations for each topic comprised the learning experiences included in the series. The investigator served as teacher. She held an attitude of 2.75 as measured by the attitude scale.

An analysis of the initial and final measurements indicates the following results:

1. Attitudes were changed from a position of 5.94 on the attitude scale to 4.81, showing a change to a more favorable attitude of 1.13 scale steps. A standard error of difference in means of .331 gives a critical ratio of 3.41, indicating practical certainty that a significant change in attitudes occurred.

2. Analysis of the data to determine whether the attitudes developed carried over into phases of development not specifically discussed in the learning program showed a mean gain for the items taught of 1.21, a standard error of difference of .339, and a critical ratio of 3.56 as compared with a mean gain for the untaught items of 1.19, standard error of difference in means of .375, and a critical ratio of 3.13. Thus the change of attitudes developed in regard to specific phases of self-reliance included in the teaching program carried over into other aspects of the child's activities which were not included.

3. A comparison of the mean attitude scores of the subjects ranging in age from twenty-two to twenty-nine years with those from thirty to forty-seven years of age showed practically as much gain for one group as for the other.

4. Initial and final measurements of knowledge concerning the development of the child showed a gain of 3.5 in mean scores, with a standard error of the difference of .74. This gives a critical ratio of 4.73 indicating practical certainty that the difference was significant.

5. Increase in practice scores shows a mean gain of 55.15 with a standard error of difference in means of 11.7 and a critical ratio of 4.71, indicating that the difference was significant.

6. Although numbers are too limited for comparison between groups, such a procedure shows interesting trends. For instance, the rural group, having the largest number of children and the highest

average age, registered a more favorable attitude in the initial test than any of the other three. This may suggest that families who live in the country and who have a larger number of children hold, on the whole, a more favorable attitude toward self-reliance than do smaller families living in small town communities.

As indicated in the second result, a significant gain was registered on those items in the attitude test excluded from the learning program as well as on the items included. This tends to indicate that the type of attitude developed is sufficiently general in character to function in a variety of situations.

REFERENCES

1. Hanson, Rose L.: An investigation of children's use of money. *Child Develop.*, 1933, 4, 50-54.
2. Jack, Lois M.: A device for the measurement of parent attitudes and practices. [In] Hattendorf, Katharine Wood, Ojemann, Ralph H., Schaus, Hazel Spencer, and others: *Researches in Parent Education I. Univ. Iowa Stud., Stud. in Child Welfare*, 1932, 6, Pp. 288. (p. 135-149)
3. Ojemann, Ralph H.: The measurement of attitude toward self-reliance. [In] Ojemann, Ralph H., Ackerley, Lois Alberta, Butler, Evelyn Ini, and others. *Researches in Parent Education III. Univ. Iowa Stud., Stud. in Child Welfare*, 1934, 10, Pp. 391. (p. 101-111)
4. Ojemann, Ralph H.: A standard for estimating the validity of child development principles. [In] Hattendorf, Katharine Wood, Ojemann, Ralph H., Schaus, Hazel Spencer, and others: *Researches in Parent Education I. Univ. Iowa Stud., Stud. in Child Welfare*, 1932, 6, Pp. 288. (p. 93-114)
5. Ojemann, Ralph H.: The generalizations relating to child development involved in intelligent parental guidance. [In] Ojemann, Ralph H., Ackerley, Lois Alberta, Butler, Evelyn Ini, and others. *Researches in Parental Education III. Univ. Iowa Stud., Stud. in Child Welfare*, 1934, 10, Pp. 391. (p. 29-99)
6. Phillips, David P.: Techniques for measuring the results of parent education: Eating and sleeping of preschool children. [In] Ojemann, Ralph H., Roberts, Mary Price, Phillips, David P., and others: *Researches in Parent Education II. Univ. Iowa Stud., Stud. in Child Welfare*, 1934, 8, Pp. 335. (p. 99-146)

APPENDIX I

**BASIC DATA FOR GENERALIZATIONS
RELATING TO CHILD DEVELOPMENT**

BASIC DATA FOR GENERALIZATIONS RELATIVE TO MOTOR DEVELOPMENT

Generalization	Contributors								Research Studies
	Blanton and Blatz (5)	Blatz and Bott (6)	Fackre and Anderson (14)	Fenton (15)	Kugelmass (33)	Langdon (34)	Rand, Sweeney, and Vincent (46)	Strang (55)	
Motor control in newborns	x	x	x	x	x	x	x	x	de Angelis (1); Blanton (4); Bryan (7); Buhler (8); Dennis (12); Irwin (24, 25, 26, 27); Jones (30); Pratt, Nelson, and Sun (44); Sherman and Sherman (52)
Motor development of arms and hands; grasping			x	x		x	x	x	Castner (10); Halverson (20, 21); Lippman (35); McGinnis (36); Schmidt (48); Sells (51); Sherman and Sherman (52); Slutsman (56); Sunderlin (57); Waggoner and Armstrong (59); Wellman (60)
Development of handedness and its relation to speech							x		Bjore and Schmeckle (13); Haefer (19); Heinlein (22); Hicks (23); Jenkins (28); Johnson (29); Jones (31); Lippman (35); Meneces and Holly (38); Ojemann (40, 41, 42); Orton and Travis (43); Pyle and Drouin (45); Schiller (47); Schott (50); Stern and Schilf (53); Ukrainian State Neuropsychiatric Institute (58); Wellman (60)
Development of motor control of eyes				x			x		Bryan (7); Sherman and Sherman (52)
Development of motor control of head				x					Lippman (35)
Walking	x	x	x	x	x	x	x	x	Burnside (9); McGraw (37); Shirley (53)

	Contributors								Research Studies
	Blanton and Blatz (5)	Batz and Bott (6)	Raggre and Anderson (14)	Fenton (15)	Kugelmass (33)	Langdon (34)	Rand, Sweeney and Vincent (46)	Strang (55)	
Generalization									
Effect of maturation and practice on the development of motor control			x				x	x	
								Blackhurst (3); Gates and Taylor (16); Gesell and Thompson (17); Goodenough and Bryan (18); Hicks (23); Jenkins (28); Johnson (29); Kiefer (32); Well- man (60)	
Relation of mentality to development of motor control							x	x	
								Aoki (2); Cunningham (11); Goodenough and Bryan (18); Johnson (29); Kiefer (32); Lippman (35); McGinnis (36); Monahan and Hollingworth (39); Schmidt (49); Stutsman (56); Wellman (60)	
Development of motor control through spontaneous play			x	x	x		x	x	
								Jenkins (28); Williams, Atkinson, and Brace (61)	
Incentives for motor development	x	x	x	x		x	x	x	
								Goodenough and Bryan (18); Williams, Atkinson, and Brace (61)	
Development of special motor skills Relation of parental and adult attitudes toward the motor development of a child	x							x	
								Gates and Taylor (16)	
Reliability of motor tests									
								Cunningham (11); Goodenough and Bryan (18); Hicks (23); Sunderlin (57); Well- man (60)	

REFERENCES ON MOTOR DEVELOPMENT

1. de Angelis, Francesco: Reflexes of the new-born. *Amer. J. Dis. Child.*, 1923, 26, 211-215
2. Aoki, S.: Significance of first walking in child's development. *Shinri Kenkyu [Psychological Studies]*, 21, No. 1 Abstr. No. 422, *Psychol. Abstr.*, 1927, 1, 97.
3. Blackhurst, Dorothy Jean: The value of play apparatus for developing motor control in preschool children. State University of Iowa, Unpublished Master's thesis, 1927, Pp. 77.
4. Blanton, Margaret Gray: The behavior of the human infant during the first thirty days of life. *Psychol. Rev.*, 1917, 24, 456-483.
5. Blanton, Smiley, and Blanton, Margaret: *Child guidance*. New York: Century [c. 1927]. Pp. xviii, 301.
6. Blatz, William E., and Bott, Helen A.: *The management of young children*. New York: William Morrow, 1930. Pp. xii, 354.
7. Bryan, Edith S.: Variations in the responses of infants during first ten days of post-natal life. *Child Develop.*, 1930, 1, 56-77.
8. Buhler, Charlotte: *The first year of life*. Trans. by Pearl Greenberg and Rowena Ripin. New York: John Day [c. 1930]. Pp. x, 281.
9. Burnside, Lenoir H.: Coordination in the locomotion of infants. *Genet. Psychol. Monog.*, 1927, 2, 284-372.
10. Castner, Burton Menough: The development of fine prehension in infancy. *Genet. Psychol. Monog.*, 1932, 12, 105-193.
11. Cunningham, Bess V.: An experiment in measuring gross motor development of infants and young children. *J. Educ. Psychol.*, 1927, 18, 458-464.
12. Dennis, Wayne: The role of mass activity in the development of infant behavior. *Psychol. Rev.*, 1932, 39, 593-595.
13. Eyre, Mary B., and Schmeckle, Mary M.: A study of handedness, eyedness, and footedness. *Child Develop.*, 1933, 4, 73-78
14. Faegre, Marion L., and Anderson, John E.: *Child care and training*. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
15. Fenton, Jessie Chase: *A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life*. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
16. Gates, Arthur I., and Taylor, Grace A.: An experimental study of the nature of improvement resulting from practice in a motor function. *J. Educ. Psychol.*, 1926, 17, 226-236.
17. Gesell, Arnold, and Thompson, Helen: Learning and growth in identical infant twins: An experimental study by the method of co-twin control. *Genet. Psychol. Monog.*, 1929, 6, 1-124.
18. Goodenough, Florence L., and Brian, Clara R.: Certain factors underlying the acquisition of motor skill by preschool children. *J. Exper. Psychol.*, 1929, 12, 127-155.
19. Haefner, Ralph: The educational significance of left-handedness. *Teach. Coll., Columbia Univ., Cont. to Educ.*, 1929, No. 360, Pp. viii, 84.

20. Halverson, H. M.: An experimental study of prehension in infants. *Proceedings & Papers of the Ninth International Congress of Psychology*. Held at Yale University, New Haven, Conn., Sept. 1-7, 1929. Pp. xii, 534. (p. 208-209)
21. Halverson, H. M.: A further study of grasping. *J. Gen. Psychol*, 1932, 7, 34-64.
22. Heinlein, Julia Heil: A study of dextrality in children. *Ped. Sem. & J. Genet. Psychol.*, 1929, 36, 91-119
23. Hicks, James Allan: The acquisition of motor skill in young children: An experimental study of the effects of practice in throwing at a moving target. *Univ. Iowa Stud, Stud in Child Welfare*, [1931] 4, No. 5, Pp. 80.
24. Irwin, Orvis C.: The amount and nature of activities of newborn infants under constant external stimulating conditions during the first ten days of life. *Genet Psychol. Monog.*, 1930, 8, No 1, 1-92.
25. Irwin, Orvis C.: The amount of motility of seventy-three newborn infants. *J. Comp Psychol*, 1932, 14, 415-428.
26. Irwin, Orvis C.: The distribution of the amount of motility in young infants between two nursing periods. *J. Comp. Psychol.*, 1932, 14, 429-445.
27. Irwin, Orvis C.: The relation of body motility in young infants to some physical traits. *J. Exper. Educ.*, 1932-1933, 1, 140-143.
28. Jenkins, Lulu Marie: A comparative study of motor achievements of children of five, six, and seven years of age. *Teach Coll, Columbia Univ., Cont. to Educ.*, 1930, No. 414, Pp. 54.
29. Johnson, Buford J.: *Experimental study of motor abilities of children in the primary grades*. Baltimore, Md.: Johns Hopkins Press, 1927. Pp. 62.
30. Jones, Harold Ellis: The galvanic skin reflex in infancy. *Child Develop.*, 1930, 1, 106-110.
31. Jones, Harold Ellis: Dextrality as a function of age. *J. Exper. Psychol.*, 1931, 14, 125-143.
32. Kiefer, Frieda A.: Manual motor correlation in superior children. *J. Appl. Psychol.*, 1929, 13, 357-371.
33. Kugelmass, I. Newton: *The story of infancy: A modern handbook of the baby's development, feeding, care, training, difficulties, and disease-prevention*. New York: Century [c. 1930], Pp. xvii, 327.
34. Langdon, Grace: *Home guidance for young children: A parents' handbook*. New York: John Day [c. 1931], Pp. xvii, 405.
35. Lippman, Hyman Shalit: Certain behavior responses in early infancy. *Ped. Sem. & J. Genet. Psychol.*, 1927, 34, 424-440.
36. McGinnis, Esther: The acquisition and interference of motor habits in young children. *Genet. Psychol. Monog.*, 1929, 6, 203-311.
37. McGraw, Myrtle B.: From reflex to muscular control in the assumption of an erect posture and ambulation in the human infant. *Child Develop.*, 1932, 3, 291-297.
38. Menees, Thomas O., and Holly, Leland E.: The ossification in the

- extremities of the new-born. *Amer. J. Roentgenology & Radium Therapy*, 1932, 28, 389-390.
39. Monahan, Jane E., and Hollingworth, Leta S.: Neuro-muscular capacity of children who test above 135 IQ (Stanford-Binet). *J. Educ. Psychol.*, 1927, 18, 88-96.
 40. Ojemann, R. H.: Studies in handedness: I. A technique for testing unimanual handedness. *J. Educ. Psychol.*, 1930, 21, 597-611.
 41. Ojemann, R. H.: Studies in handedness: II. Testing bimanual handedness. *J. Educ. Psychol.*, 1930, 21, 695-702.
 42. Ojemann, R. H.: Studies in handedness: III. Relation of handedness to speech. *J. Educ. Psychol.*, 1931, 22, 120-126.
 43. Orton, Samuel T., and Travis, Lee Edward: Studies in stuttering: IV. Studies of action currents in stutterers. *Arch. Neurol. & Psychiat.*, 1929, 21, 61-68.
 44. Pratt, Karl Chapman, Nelson, Amalie Kraushaar, and Sun, Kuo Hua: The behavior of the newborn infant. Columbus, Ohio: Ohio State Univ. Press, 1930. Pp. xiii, 237.
 45. Pyle, W. H., and Drouin, Alice: Left-handedness: An experimental and statistical study. *School & Soc.*, 1932, 36, 253-256.
 46. Rand, Winifred, Sweeny, Mary E., and Vincent, E. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
 47. Schiller, Maria: Probleme um die Linkshandigkeit mit Untersuchungen an Stuttgarter Schulkindern [Problems of left-handedness with studies of school children in Stuttgart] *Zsch. f. d. ges. Neurol. u. Psychiat.*, 1932, 140, 496-516.
 48. Schmidt, E.: Some factors involved in the construction of a self-help play suit. Iowa State College of Agriculture and Mechanic Arts, Unpublished Master's thesis, 1930.
 49. Schmidt, Hans: Vergleichende Untersuchungen über geistige und Körperliche Leistungen bei Schülern. *Arbeitsphysiol.*, 1932, 5, 181-202.
 50. Schott, A.: Zum Problem der Linkshandigkeit. *Zsch. f. angew. Psychol.*, 1932, 43, 119-127.
 51. Sells, Iva Irene: A study of the structural design of the clothing of pre-school children in relation to self care. University of Minnesota, Unpublished Master's thesis, 1927, Pp. 70.
 52. Sherman, Mandel, and Sherman, Irene Case: Sensori-motor responses in infants. *J. Comp. Psychol.*, 1925, 5, 53-68.
 53. Shirley, Mary M.: The first two years: A study of twenty-five babies. Vol. 1. Postural and locomotor development. Minneapolis, Minn.: University of Minnesota Press [c. 1931], Pp. xv, 227.
 54. Stern, Grete, and Schilf, Erich: Über Linksfussigkeit. *Zsch. f. d. g. Neurol. u. Psychiat.*, 1932, 139, 41-43.
 55. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
 56. Stutsman, Rachel: Mental measurement of preschool children: With a guide for the administration of the Merrill-Palmer scale of mental

tests. Yonkers-on-Hudson, N. Y.: World Book Co. [c. 1931], Pp. x, 368.

57. Sunderlin, Edith M.: A study of fastenings on the clothing of pre-school children. State University of Iowa, Unpublished Master's thesis, 1931, Pp. j, 147.
58. Ukrainian State Neuropsychiatric Institute: The motor development of children suffering from stammering: The neuropsychiatric problems of adolescence. Collected papers, 1931, 16, 81. Abstr. No. 211, Child Develop. Abstr., 1933, 7, 81.
59. Wagoner, Lovisa C., and Armstrong, Edna M.: The motor control of children as involved in the dressing process. *Ped. Sem. & J. Genet. Psychol.*, 1928, 35, 84-97.
60. Wellman, Beth: The development of motor coördination in young children: An experimental study in the control of hand and arm movements. *Univ. Iowa Stud., Stud. in Child Welfare*, 1925, 3, No. 4, Pp. 93.
61. Williams, Jesse Feiring, Atkinson, Ruth V., and Brace, David K.: A comparative study of formal gymnastics and play for fourth-grade children. *Teach. Coll. Rec.*, 1922, 23, 327-360.

BASIC DATA FOR GENERALIZATIONS RELATIVE TO INTELLECTUAL DEVELOPMENT

Generalization	Contributors										Research Studies
	Arlett (1)	Blanton (7)	Blatz and Bott (8)	Fagere and Anderson (20)	Fenton (21)	Hollingsworth (41)	Langdon (58)	Rand, Sweeney, and Vincent (73)	Strang (81)	Thom (87)	
Intellectual growth in infancy	x	x	x	x	x	x	x	x	x		Bryan (9); Buhler (10); Castner (15); Demetriades (19); Furfey, Bonham, and Sargent (25); Gesell (26); Haller (34); Irwin (45, 46, 47, 48); Jensen (49); Jones (54); Löwenfeld (61); Marquis (63); Peiper (67, 68, 69); Pratt, Nelson, and Sun (72); Sherman and Sherman (76); Taylor-Jones (85)
Effect of heredity and general environment on intellectual growth		x		x	x	x		x	x		Baldwin and Stecher (3); Burks (11); Carter (14); Freeman, Holzinger, Mitchell, and Others (23); Goodenough (31); Hallowell (35); Heilman (36); Hirsch (38); Jones (53); Wheeler (91)
Relation of socio-economic level to intelligence											Burks, Jensen, and Terman (13); Collins (18); Freeman, Holzinger, Mitchell, and Others (23); Furfey (24); Gesell and Lord (27); Haggerty and Nash (33); Sandiford (75); Stokes (79); Strachan (80); Stroud (82); Stutsman (83); Terman (86); Wheeler (91)
Relation of sensory experience to intellectual growth	x			x			x	x	x	x	

Generalization	Contributors										Research Studies
	Artitt (1)	Blanton (7)	Blatz and Bott (8)	Faegre and Anderson (20)	Fenton (21)	Hollingsworth (41)	Langdon (58)	Rand, Sweney, and Vincent (73)	Strang (81)	Thom (87)	
Influence of preschool attendance on intellectual growth											Barrett and Koch (4); Goodenough (30); Hildreth (37); Kawin and Hoefer (56); Wellman (90)
Correlation of physical and mental growth		x			x	x		x	x		Baldwin and Stecher (3); Hoefer and Hondy (39); Hollingsworth and Taylor (43); Jones (51); Kiefer (57); Monahan and Hollingsworth (65)
Effect of nursery school attendance on habits related to routine											Kawin and Hoefer (56)
Intelligence tests: Their description, history, use; calculation and interpretation of the IQ		x							x	x	Gesell (26); Goodenough (28); Stutsman (83)
Reliability of various mental tests											Bayley (5); Carter (14); Cattell (16); Gesell (26); Goodenough (28); Hallowell (35); Hollingsworth and Cobb (42); Skeels (77); Stutsman (83)
Constancy of IQ					x	x					Baldwin and Stecher (3); Cattell (17); Jordan (55)
Sex differences in intellectual growth											Baldwin and Stecher (3); Burks, Jensen, and Terman (13); Goodenough (28); Stutsman (83); Terman (86)
Relation of language development to intellectual growth	x			x	x	x	x	x	x		Hallowell (35)
Relation of reading to intellectual growth	x			x	x		x	x	x	x	

Relation of intelligence to social and emotional development	x	x	x	x	x	x	x	x	Bayley (6); Other studies in emotional and social development
Play as a factor in intellectual growth	x								
Intellectual growth curve									Baldwin and Stecher (3); Freeman (22); Jordan (55); Odum (66); Thurstone and Ackerson (88)
Range and classification in intelligence									Thurstone and Ackerson (88)
Attention as a factor in intellectual development									Leontiev (60)
Memory as a factor in intellectual development	x								Hurllock and Newmark (44)
Curiosity as a factor in intellectual development									
Relation of reasoning to intellectual development	x								Matheson (64); Piaget (70, 71); Roberts (74)
Influence of bodily conditions on intellectual growth									Burks, Jensen, and Terman (13); Hoefler and Hardy (39); Hoke (40); Terman (86)
Relation of discipline to intellectual growth									
Correlation of special abilities and interests with general intelligence									Burks, Jensen, and Terman (13); Goodenough (28); Hollingsworth and Taylor (43); Terman (86)
Cross sections showing characteristic development of intellectual traits at different ages									
Relation of size of family and birth order to intellectual development									Arthur (2); Jones and Hsiao (52); Lentz (59); Mailer (62); Steckel (78); Stroud (82); Sutherland (84); Thurstone and Jenkins (89)

REFERENCES ON INTELLECTUAL DEVELOPMENT

1. Arlitt, Ada Hart: *The child from one to six: Psychology for parents.* New York: McGraw-Hill, 1930. Pp. xix, 188
2. Arthur, Grace: *The relation of IQ to position in family.* *J. Educ. Psychol.*, 1926, 17, 541-550.
3. Baldwin, Bird T., and Stecher, Lorle I.: *Mental growth curve of normal and superior children: Studied by means of consecutive intelligence examinations.* *Univ. Iowa Stud., Stud. in Child Welfare*, 1922, 2, No. 1, Pp. 61.
4. Barrett, Helen Elizabeth, and Koch, Helen Lois: *The effect of nursery-school training upon the mental-test performance of a group of orphanage children.* *Ped. Sem. & J. Genet. Psychol.*, 1930, 37, 102-122.
5. Bayley, Nancy: *Performance tests of three-, four-, and five-year-old children.* *Ped. Sem. & J. Genet. Psychol.*, 1926, 33, 435-454.
6. Bayley, Nancy: *A study of the crying of infants during mental and physical tests.* *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 306-329.
7. Blanton, Smiley, and Blanton, Margaret Gray: *Child guidance* New York: Century [c 1927], Pp. xviii, 301.
8. Blatz, William E., and Bott, Helen: *Parents and the pre-school child* New York: William Morrow [c. 1929], Pp. xii, 340.
9. Bryan, Edith S.: *Variation in the responses of infants during first ten days of post-natal life.* *Child Develop.*, 1930, 1, 56-77.
10. Bühler, Charlotte: *The first year of life.* Trans. by Pearl Greenberg and Rowena Ripin. New York: John Day [c. 1930], Pp. x, 281.
11. Burks, Barbara Stoddard: *The relative influence of nature and nurture upon mental development. A comparative study of foster-parent foster-child resemblance and true-parent true-child resemblance.* [In] *The Twenty-Seventh Yearbook of the National Society for the Study of Education. Nature and Nurture. Part I: Their Influence Upon Intelligence.* Bloomington, Ill.: Public School Publishing Co., 1928. Pp. ix, 465. (p. 219-316)
12. Burks, Barbara S., and Tolman, Ruth Sherman: *Is mental resemblance related to physical resemblance in sibling pairs?* *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 3-15.
13. Burks, Barbara Stoddard, Jensen, Dortha Williams, and Terman, Lewis M.: *Genetic studies of genius: Vol. III. The promise of youth: Follow-up studies of a thousand gifted children* Stanford University, Calif.: Stanford University Press, 1930. Pp. xiv, 508.
14. Carter, Harold Dean: *Family resemblances in verbal and numerical abilities.* *Genet. Psychol. Monog.*, 1932, 12, 1-104.
15. Castner, Burton Menough: *The development of fine prehension in infancy.* *Genet. Psychol. Monog.*, 1932, 12, 105-193.
16. Cattell, Psyche: *Comparability of IQ's obtained from different tests at different IQ levels.* *School & Soc.*, 1930, 31, 437-442.
17. Cattell, Psyche: *Constant changes in the Stanford-Binet IQ.* *J. Educ. Psychol.*, 1931, 22, 544-550.

18. Collins, J. E.: The intelligence of school children and paternal occupation. *J. Educ. Res.*, 1928, 17, 157-169.
19. Demetriades, T. H.: Des Kochleapalpebrale Reflex bei Neugeborenen. Cited from Löwenfeld, Berthold: *Systematisches Studium der Reaktionen der Säuglinge auf Klänge und Geräusche*. *Zsch. f. Psychol.*, 1927, 104, 62-96.
20. Faegre, Marion L., and Anderson, John E.: *Child care and training*. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
21. Fenton, Jessie Chase: *A practical psychology of babyhood. The mental development and mental hygiene of the first two years of life*. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
22. Freeman, Frank N.: Preliminary report of a study of mental growth by repeated tests. Conference on Individual Differences in the Character and Rate of Psychological Development. Meeting of the Division of Anthropology and Psychology, National Research Council, held at Iowa City, Iowa, December 28, 1930, Pp. 73 (p. 41-51)
23. Freeman, Frank N., Holzinger, Karl J., Mitchell, Blythe Clayton, and others: The influence of environment on the intelligence, school achievement, and conduct of foster children. [In] *The Twenty-Seventh Yearbook of the National Society for the Study of Education. Nature and Nurture Part I Their Influence Upon Intelligence*. Bloomington, Ill.: Public School Publishing Co., 1928. Pp. ix, 465. (p. 103-217)
24. Furfey, Paul Hanly: The relation between socio-economic status and intelligence of young infants as measured by the Linfert-Hierholzer scale. *Ped. Sem. & J. Genet. Psychol.*, 1928, 35, 478-480.
25. Furfey, Paul Hanly, Bonham, Martha Ann, and Sargent, Mae Kathryn: The mental organization of the newborn. *Child Develop.*, 1930, 1, 48-51.
26. Gesell, Arnold: *The mental growth of the pre-school child*. New York: Macmillan, 1925. Pp. x, 447.
27. Gesell, Arnold, and Lord, Elizabeth Evans: Psychological comparison of nursery school children from homes of low and high economic status. *Ped. Sem. & J. Genet. Psychol.*, 1927, 34, 339-356.
28. Goodenough, Florence L.: *Measurement of intelligence by drawing*. Yonkers-on-Hudson, N. Y.: World Book Co., 1926. Pp. xi, 177.
29. Goodenough, Florence L.: The relation of the intelligence of pre-school children to the education of their parents. *School & Soc.*, 1927, 26, 54-56.
30. Goodenough, Florence L.: A preliminary report on the effect of nursery-school training upon the intelligence test scores of young children. [In] *The Twenty-Seventh Yearbook of the National Society for the Study of Education. Nature and Nurture. Part I: Their Influence Upon Intelligence*. Bloomington, Ill.: Public School Publishing Co., 1928. Pp. ix, 465. (p. 361-369)
31. Goodenough, Florence L.: The relation of the intelligence of pre-

- school children to the occupation of their fathers. *Amer. J. Psychol.*, 1928, 40, 284-294.
32. Goodenough, Florence L., and Shapiro, Gertrude: The performance of pre-school children of different social groups on the Kuhlmann-Binet tests. *J. Educ. Res.*, 1928, 18, 356-362.
 33. Haggerty, M. E., and Nash, Harry B.: Mental capacity of children and paternal occupation. *J. Educ. Psychol.*, 1924, 15, 559-572.
 34. Haller, Mary Woodhull. The reactions of infants to changes in the intensity and pitch of pure tones. *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 162-180.
 35. Hallowell, Dorothy K.: Stability of mental test ratings for pre-school children. *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 406-421.
 36. Heilman, J. D.: Factors determining achievement and grade location. *Ped. Sem. & J. Genet. Psychol.*, 1929, 36, 435-457.
 37. Hildreth, Gertrude. The effect of school environment on Stanford Binet tests of young children. [In] *The Twenty-Seventh Yearbook of the National Society for the Study of Education. Nature and Nurture. Part I. Their Influence Upon Intelligence.* Bloomington, Ill.: Public School Publishing Co., 1928. Pp. ix, 465. (p. 354-359)
 38. Hirsch, Nathaniel D. Mttron. An experimental study of the east Kentucky mountaineers: A study in heredity and environment. *Genet. Psychol. Monog.*, 1928, 3, 183-244.
 39. Hoefer, Carolyn, and Hardy, Mattie Crumpton: The influence of improvement in physical condition on intelligence and educational achievement. [In] *The Twenty-Seventh Yearbook of the National Society for the Study of Education. Nature and Nurture. Part I: Their Influence Upon Intelligence.* Bloomington, Ill.: Public School Publishing Co., 1928. Pp. ix, 465. (p. 371-387)
 40. Hoke, K. J.: The health of the intellectually superior pupil. [In] *The Twenty-Third Yearbook of the National Society for the Study of Education. Part I: Report of the Society's Committee on the Education of Gifted Children.* Bloomington, Ill.: Public School Publishing Co., 1924. Pp. 443. (p. 238-246)
 41. Hollingsworth, H. L.. Mental growth and decline: A survey of developmental psychology. New York: Appleton, 1927. Pp. xii, 396.
 42. Hollingsworth, Leta S., and Cobb, Margaret V.: Children clustering at 165 IQ and children clustering at 146 IQ compared for three years in achievement. [In] *The Twenty-Seventh Yearbook of the National Society for the Study of Education. Nature and Nurture. Part II: Their Influence Upon Achievement.* Bloomington, Ill.: Public School Publishing Co., 1928. Pp. xv, 397. (p. 3-33)
 43. Hollingsworth, Leta S., and Taylor, Grace A.: B. Studies of physical condition and growth. B2. Size and strength of children who test above 135 I.Q. [In] *The Twenty-Third Yearbook of the National Society for the Study of Education. Part I: The Education of Gifted Children.* Bloomington, Ill.: Public School Publishing Co., 1924. Pp. 443. (p. 221-237)

44. Hurlock, Elizabeth B., and Newmark, Ella D.: The memory span of preschool children. *Ped. Sem. & J. Genet. Psychol.*, 1931, 39, 157-173.
45. Irwin, Orvis C.: The amount and nature of activity of newborn infants under constant external stimulating conditions during the first ten days of life. *Genet. Psychol. Monog.*, 1930, 8, 1-92.
46. Irwin, Orvis C.: The amount of motility of seventy-three newborn infants. *J. Comp. Psychol.*, 1932, 14, 415-428.
47. Irwin, Orvis C.: The latent time of the body startle in infants. *Child Develop.*, 1932, 3, 104-107.
48. Irwin, Orvis C.: Motility in young infants: I. Relation to body temperature. *Amer. J. Dis. Child.*, 1933, 45, 531-533.
49. Jensen, Kai: Differential reactions to taste and temperature stimuli in newborn infants. *Genet. Psychol. Monog.*, 1932, 12, 361-479.
50. Jones, H. E., Conrad, H. S., and Blanchard, M. B.: Environmental handicap in mental test performance. *Univ. California Publ. in Psychol.*, 1932, 5, No. 3, 63-99.
51. Jones, Harold E.: Relationships in physical and mental development. *Rev. Educ. Res.*, 1933, 3, 150-162.
52. Jones, Harold E., and Hsiao, H. H.: A preliminary study of intelligence as a function of birth order. *Ped. Sem. & J. Genet. Psychol.*, 1928, 35, 428-433.
53. Jones, Harold Ellis: A first study of parent-child resemblance in intelligence. [In] *The Twenty-Seventh Yearbook of the National Society for the Study of Education. Nature and Nurture. Part I: Their Influence Upon Intelligence*. Bloomington, Ill.: Public School Publishing Co., 1928. Pp ix, 465 (p. 61-72).
54. Jones, Mary Cover: The development of early behavior patterns in young children. *Ped. Sem.*, 1926, 33, 537-585.
55. Jordan, A. M.: Mental growth. *J. Appl. Psychol.*, 1930, 14, 517-531.
56. Kavin, Ethel, and Hlofer, Carolyn: A comparative study of a nursery-school vs a non-nursery-school group. Chicago, Ill.: University of Chicago Press [c. 1931], Pp. ix, 52.
57. Kiefer, Frieda A.: Manual motor correlation in superior children. *J. Appl. Psychol.*, 1929, 13, 357-371.
58. Langdon, Grace: Home guidance for young children: A parents' handbook. New York: John Day [c. 1931], Pp. xvii, 405.
59. Lentz, Theodore F.: Relation of IQ to size of family. *J. Educ. Psychol.*, 1927, 18, 486-496.
60. Leontiev, A. N.: Studies on the cultural development of the child. III. The development of voluntary attention in the child. *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 52-83.
61. Löwenfeld, Berthold: Systematisches Studium der Reaktionen der Säuglinge auf Klänge und Geräusche. *Zsch. f. Psychol.*, 1927, 104, 62-96.
62. Maller, J. B.: Size of family and personality of offspring. *J. Soc. Psychol.*, 1931, 2, 3-27.

63. Marquis, Dorothy Postle: Can conditioned responses be established in the newborn infant? *Ped. Sem. & J. Genet. Psychol.*, 1931, 39, 479-492.
64. Matheson, Eunice: A study of problem solving behavior in pre-school children. *Child Develop.*, 1931, 2, 242-262.
65. Monahan, Jane E., and Hollingworth, Leta S.: Neuro-muscular capacity of children who test above 135 IQ (Stanford-Binet). *J. Educ. Psychol.*, 1927, 18, 88-96.
66. Odom, Charles Leonard: A study of the mental growth curve with special reference to the results of group intelligence tests. *J. Educ. Psychol.*, 1929, 20, 401-416.
67. Peiper, Albrecht: Untersuchungen über die Reaktionszeit im Säuglingsalter. I. Reaktionszeit auf Schallreiz *Monatschr. f. Kinderh.*, 1926, 31, 491-506.
68. Peiper, Albrecht: Untersuchungen über die Reaktionszeit des Säuglings. II. Reaktionszeit auf Schmerzreiz. *Monatschr. f. Kinderh.*, 1926, 32, 136-143.
69. Peiper, Albrecht: Sinnesreaktionen der Neugeborenen. *Zsch. f. Psychol.*, 1930, 114, 363-370.
70. Piaget, Jean: Judgment and reasoning in the child. New York: Harcourt, Brace, 1928. Pp. viii, 260
71. Piaget, Jean: The child's conception of the world. New York: Harcourt, Brace, 1929. Pp. ix, 397.
72. Pratt, Karl Chapman, Nelson, Amalie Kraushaar, and Sun, Kuo Hua: The behavior of the newborn infant. Columbus, Ohio: Ohio State Univ. Press, 1930. Pp. xiii, 237.
73. Rand, Winifred, Sweeny, Mary F. and Vincent, E. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
74. Roberts, Katherine Elliott: The ability of preschool children to solve problems in which a simple principle of relationship is kept constant. *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 118-133.
75. Sandiford, Peter: Parental occupations and intelligence of offspring. *School & Soc.*, 1926, 23, 117-119.
76. Sherman, Mandel, and Sherman, Irene Case: Sensori-motor responses in infants. *J. Comp. Psychol.*, 1925, 5, 53-68.
77. Skeels, Harold Manville: A study of some factors in form board accomplishments of preschool children. *Univ. Iowa Stud., Stud. in Child Welfare*, 1933, 7, No. 2, Pp. 148.
78. Steckel, Minnie Louise: Intelligence and birth order in family. *J. Soc. Psychol.*, 1930, 1, 327-344.
79. Stokes, Stuart M.: Occupational groups and child development: A study of mental and physical growth of children in relation to occupational grouping of parents. *Harvard Monog. in Educ.*, 1927, No. 8, Pp. 92.
80. Strachan, Lexie: Distribution of intelligence quotients of twenty-two thousand primary-school children. *J. Educ. Res.*, 1926, 14, 167-177.

81. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
82. Stroud, J. B.: A study of the relation of intelligence test scores of public school children to the economic status of their parents. *Ped. Sem. & J. Genet. Psychol.*, 1928, 35, 105-111.
83. Stutsman, Rachel: Mental measurement of preschool children: With a guide for the administration of the Merrill-Palmer scale of mental tests. Yonkers-on-Hudson, N. Y.: World Book Co. [c. 1931], Pp x, 368.
84. Sutherland, H. E. G.: The relationship between IQ. and size of family. *J. Educ. Psychol.*, 1929, 20, 81-90
85. Taylor-Jones, Louise: A study of behavior in the newborn. *Amer. J. Med. Sciences*, 1927, 174, 257-362.
86. Terman, Lewis M.: Genetic studies of genius: Vol. I. Mental and physical traits of a thousand gifted children. Stanford University, Calif.. Stanford University Press, 1925. Pp xv, 648
87. Thom, Douglas A.: Everyday problems of the everyday child. New York. Appleton, 1929. Pp. xiii, 349
88. Thurstone, L. L., and Ackerson, Luton: The mental growth curve for the Binet tests. *J Educ. Psychol.*, 1929, 20, 569-583.
89. Thurstone, I. L., and Jenkins, Richard L.: Birth order and intelligence. *J Educ. Psychol.*, 1929, 20, 641-651.
90. Wellman, Beth L.: The effect of pre-school attendance upon the IQ. *J Exper. Educ.*, 1932-1933, 1, 48-69
91. Wheeler, L. R.: The intelligence of east Tennessee mountain children. *J Educ. Psychol.*, 1932, 23, 351-370.

Quarreling : Stages of and treatment for	x					Baumgarten and Prescott (2) ; Dashiell (12); Duffy (13) ; Goodenough (18) ; Marston (32) ; Newcomb (34)
Methods of studying emotional development in children						
The nature of emotions	x	x	x	x	x	Ray (37)
Emotional growth : General description and factors promoting growth	x		x	x	x	Blatz (5) ; Bridges (7) ; Chambers (11)
Methods for eliminating undesirable emotional responses	x	x				Jones (28) ; Jones (29) ; Watson and Raynor (46)
Expression of emotion in infancy	x	x	x	x		Blanton (3) ; Bridges (8) ; Bryan (9) ; Irwin (25) ; Jones (27) ; Sherman (40) ; Washburne (45)
Incidence of emotional problems and nervous habits						Oulton (35, 36) ; Tilson (43)
Relation of attitudes to emotional development	x	x				
Influence of adult example on the emotional development of children	x		x	x	x	Felder (15) ; Hagman (23) ; Jersild and Holmes (26) ; Valentine (44)
Fear : Incidence, causes, and treatment	x	x	x	x	x	
Anger : Frequency of outbursts, manifestations, causes, and treatment	x	x	x	x	x	Felder (15) ; Goodenough (19) ; Levy and Tulchin (31) ; Reynolds (38)

REFERENCES ON EMOTIONAL DEVELOPMENT

1. Arlitt, Ada Hart: *The child from one to six: Psychology for parents.* New York: McGraw-Hill, 1930. Pp. xix, 188.
2. Baumgarten, Francisca, and Prescott, Daniel A.: *Why children hate: An experimental investigation of the reactions of school children of Poland to the enemy occupation.* *J. Educ. Psychol.*, 1928, 19, 303-312.
3. Blanton, Margaret Gray: *The behavior of the human infant during the first thirty days of life.* *Psychol. Rev.*, 1917, 24, 456-483.
4. Blanton, Smiley, and Blanton, Margaret Gray. *Child guidance.* New York: Century [c. 1927], Pp. xviii, 301.
5. Blatz, William E.: *Emotional episodes in nursery school children.* *Proceedings and Papers of the Ninth International Congress of Psychology*, 1929, Pp. 85.
6. Blatz, William E., and Bott, Helen: *Parents and the pre-school child.* New York: William Morrow [c. 1929], Pp. xii, 340.
7. Bridges, Katharine M. Banham: *The social and emotional development of the pre-school child.* London: Kegan, Paul, Trench, Trubner, 1931. Pp. x, 277.
8. Bridges, Katharine M. Banham: *Emotional development in early infancy.* *Child Develop.*, 1932, 3, 324-341.
9. Bryan, Edith S.: *Variations in the responses of infants during first ten days of post-natal life.* *Child Develop.*, 1930, 1, 56-77.
10. Burnham, William H.: *The normal mind: An introduction to mental hygiene and the hygiene of school instruction.* New York: Appleton, 1924. Pp. xvi, 702.
11. Chambers, Othniel R.: *A method of measuring the emotional maturity of children.* *Ped. Sem. & J. Genet. Psychol.*, 1925, 32, 637-647.
12. Dashiell, J. F.: *A new method of measuring reactions to facial expression of emotion.* [Abstract] *Psychol. Bull.*, 1927, 24, 174-175.
13. Duffy, Elizabeth: *Tensions and emotional factors in reaction.* *Genet. Psychol. Monog.*, 1930, 7, 1-79.
14. Faegre, Marion L., and Anderson, John E.: *Child care and training.* Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
15. Felder, J. G.: *Some factors determining the nature and frequency of anger and fear outbreaks in preschool children.* *J. Juvenile Res.*, 1932, 16, 278-290. Abstr. No. 1371, *Child Develop. Abstr.*, 1933, 7, 526.
16. Fenton, Jessie Chase: *A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life.* Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
17. Foster, Sybil: *A study of the personality make-up and social setting of fifty jealous children.* *Ment. Hygiene*, 1927, 11, 53-77.
18. Goodenough, Florence L.: *The emotional behavior of young children during mental test.* *J. Juvenile Res.*, 1929, 13, 204-219.

19. Goodenough, Florence L.: Anger in young children. Minneapolis, Minn.: University of Minnesota Press [c. 1931], Pp. xiii, 278.
20. Goodenough, Florence L.: The expression of the emotions in infancy. *Child Develop.*, 1931, 2, 96-101.
21. Groves, Ernest R., and Groves, Gladys Hoagland: Parents and children. Philadelphia, Pa.: Lippincott [c. 1928], Pp. ix, 196
22. Gruenberg, Sidonie: Your child today and tomorrow: Some practical counsel for parents. 3rd ed. Philadelphia, Pa.: Lippincott, 1928. Pp. 255.
23. Hagman, Elmer R.: A study of fears of children of pre-school age. *J. Exper. Educ.*, 1932-1933, 1, 110-130.
24. Hollingsworth, Leta. The psychology of the adolescent. New York: Appleton, 1928 Pp. xii, 227.
25. Irwin, Orvis C. Infant responses to vertical movements. *Child Develop.*, 1932, 3, 167-169.
26. Jersild, A. T., and Holmes, F. B.: A study of children's fears. *J. Exper. Educ.*, 1933, 2, 109-118. Abstr. No. 1869, *Psychol. Abstr.*, 1934, 8, 198.
27. Jones, Harold Ellis. The retention of conditioned emotional reactions in infancy. *Ped. Sem. & J. Genet. Psychol.*, 1930, 37, 485-498.
28. Jones, Harold Ellis. The conditioning of overt emotional responses. *J. Educ. Psychol.*, 1931, 22, 127-130.
29. Jones, Mary Cover. The elimination of children's fears. *J. Exper. Psychol.*, 1924, 7, 382-390
30. Lee, Mary A. M.: A study of emotional instability in nursery school children. *Child Develop.*, 1932, 3, 142-145.
31. Levy, David M., and Tulchin, Simon H.: The resistant behavior of infants and children. II. *J. Exper. Psychol.*, 1925, 8, 209-224.
32. Marston, Leshe R.: The emotions of young children. An experimental study in introversion and extroversion. *Univ. Iowa Stud., Stud. in Child Welfare*, 1925, 3, No. 3, Pp. 99.
33. Mirk, M.: The difference of emotional stability in girls of different ages. *Australasian J. Psychol.*, 1930, 8, 229-232. Abstr. No. 484, *Child Develop. Abstr.*, 1933, 7, 184.
34. Newcomb, Theodore M.: The consistency of certain extrovert-introvert behavior patterns in 51 problem boys. *Teach. Coll., Columbia Univ., Cont. to Educ.*, 1929, No. 382, Pp. 123.
35. Olson, Willard C.: The measurement of nervous habits in normal children. University of Minnesota Institute of Child Welfare, Monograph Series No. 3. Minneapolis, Minn.: University of Minnesota Press [c. 1929], Pp. xii, 97.
36. Olson, Willard C.: Birthplace and occupation of fathers as factors in nervous habits in children. *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 214-219.
37. Ray, Wilbert S.: A study of the emotions of children with particular reference to circulatory and respiratory changes. *Ped. Sem. & J. Genet. Psychol.*, 1932, 40, 100-117.
38. Reynolds, Martha May: Negativism of preschool children: An ob-

- servational and experimental study. Teach. Coll., Columbia Univ., Cont. to Educ., 1928, No. 288, Pp. viii, 126.
39. Ross, Bertha M.: Some traits associated with sibling jealousy in problem children. Smith Coll. Stud. in Social Work, 1930-1931, 1, 364-376.
 40. Sherman, Mandel: The differentiation of emotional responses in infants: II. The ability of observers to judge the emotional characteristics of the crying of infants, and of the voice of an adult. J. Comp. Psychol., 1927, 7, 335-351.
 41. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
 42. Thom, Douglas A.: Everyday problems of the everyday child. New York: Appleton, 1929. Pp. xiii, 349.
 43. Tilson, Marie Agnes. Problems of preschool children: A basis for parental education. Teach. Coll., Columbia Univ., Cont. to Educ., 1929, No. 356, Pp. ix, 90.
 44. Valentine, C. W.: The innate bases of fear. Ped Sem. & J. Genet. Psychol., 1930, 37, 394-420.
 45. Washburn, Ruth Wendell: A study of the smiling and laughing of infants in the first year of life. Genet Psychol. Monog., 1929, 6, 397-537.
 46. Watson, John B., and Rayner, Rosalie: Conditioned emotional reactions J. Exper. Psychol., 1920, 3, 1-14.

Relation of sensory development and experience to social development	x	x	x	x	x	x	Kanner and Lachman (41)	x	
Relation of physical development to social development	x								
Self-confidence; importance and development		x	x	x	x	x	Goodenough and Leahy (30) Adelberg (1); Caldwell and Wellman (13); Ezekiel (20); Garrison (27); Goodenough (29); Goodenough and Leahy (30); Greenberg (31); Jack (38); Patten (52)	x	
Aggressiveness and dominance									
Overstimulation									
Property rights		x	x	x	x	x	Levy (46)		
Manners and conventions; relation of home attitudes to children's consideration of others	x	x	x	x	x	x			
The child's position in the family and the size of the family as factors in social development		x					Bonham and Sargent (10); Bridges (11); Campbell (14); Goodenough and Leahy (30); Levy (45); Maller (48); Parsley (51)	x	
The nursery school and its contribution to social development		x							
Relation of intelligence to social development							Loomis (47); Patten (52, 53); Walsh (61) Barker (4); Bridges (11); Finch and Carroll (23); Gregg, Miller, and Linton (32); Hay and Kappenburg (36); Hubbard (37); Laycock (44); Nelson (50) Barker (5); Bridges (11); Conrad (16); Furfey (26); Woodrow and Bemmelis (65)		
Measurement of behavior traits									
Social aspect of smiling and laughing			x				Ding and Jersild (18); Gregg, Miller, and Linton (32); Kenderline (42)		
Integrated personalities		x	x	x			Flemming (24)	x	
Introversion and extroversion							Marston (49)		x

REFERENCES ON SOCIAL DEVELOPMENT

1. Adelberg, Hilde: *Führertum im Kindergarten*. Zsch. f. ped. Psychol., 1930, 31, 144-156: 200-203.
2. Andrews, Elizabeth Gordon. The development of imagination in the preschool child. University of Iowa. Unpublished Doctor's dissertation, 1930, Pp. f, 169.
3. Arlitt, Ada Hart: The child from one to twelve: Psychology for parents. Rev. ed. New York: McGraw-Hill, 1931. Pp. xxi, 228.
4. Barker, Margaret: A preliminary report on the social-material activities of children. [In] Thomas, Dorothy Swaine, and associates: *Some New Techniques for Studying Social Behavior*. Teach. Coll., Columbia Univ., Child Develop. Monog., 1929, No. 1, Pp viii, 203. (p. 22-54)
5. Barker, Margaret: A technique for studying the social-material activities of young children. Teach. Coll., Columbia Univ., Child Develop. Monog., 1930, No. 3, Pp. 69.
6. Berne, Esther Van Cleave: An experimental investigation of social behavior patterns in young children. Univ. Iowa Stud. Stud. in Child Welfare, 1930, 4, No. 3, Pp. 93.
7. Blanton, Margaret Gray: The behavior of the human infant during the first thirty days of life. Psychol. Rev., 1917, 24, 456-483
8. Blanton, Smiley, and Blanton, Margaret Gray. Child guidance. New York: Century [c. 1927], Pp. xviii, 301.
9. Blatz, William E., and Bott, Helen A.: The management of young children. New York: William Morrow, 1930. Pp. xii, 354.
10. Bonham, M. A., and Sargent, M. K.: A study of the development of personality traits in children 24-30 mos. of age. Catholic University of America, Unpublished Master's thesis, 1928
11. Bridges, Katharine M. Banham: A study of social development in early infancy. Child Develop., 1933, 4, 36-49.
12. Bühler, Charlotte: The first year of life. Trans. by Pearl Greenberg and Rowena Ripin. New York: John Day [c. 1930], Pp. x, 281.
13. Caldwell, Otis W., and Wellman, Beth. Characteristics of school leaders. J. Educ. Res., 1926, 14, 1-13.
14. Campbell, Albert A.: A study of the personality adjustments of only and intermediate children. Ped. Sem. & J. Genet. Psychol., 1933, 43, 197-206.
15. Challman, Robert C.: Factors influencing friendships among pre-school children. Child Develop., 1932, 3, 146-158.
16. Conrad, Herbert S.: The validity of personality ratings of preschool children. J. Educ. Psychol., 1932, 23, 671-680.
17. Cushing, Hazel Morton: A perseverative tendency in pre-school children: A study in personality differences. Arch. Psychol., 1929, 17, No. 108, Pp. 55.
18. Ding, Gladys F., and Jersild, Arthur T.: A study of the laughing and smiling of preschool children. Ped. Sem. & J. Genet. Psychol., 1932, 40, 452-472.

19. Doroschenko, Olga: Der Einfluss des Milieus auf den Inhalt und Aufbau frei entstehender Kollektive im vorschulpflichtigen Alter. *Zsch. f. angew. Psychol.*, 1928, 30, 150-167.
20. Ezekiel, L. F.: Changes in egocentricity of nursery school children. *Child Develop.*, 1931, 2, 74-75.
21. Faegre, Marion L., and Anderson, John E.: *Child care and training*. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
22. Fenton, Jessie Chase: *A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life*. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
23. Finch, Frank H., and Carroll, Herbert A.: Gifted children as high-school leaders. *Ped. Sem. & J. Genet. Psychol.*, 1932, 41, 476-481.
24. Flemming, Edwin G.: The pleasing personality of high-school girls as related to other traits and measures. *J. Educ. Sociol.*, 1932-1933, 6, 401-409.
25. Forlano, George: An experiment in cooperation. *J. Educ. Res.*, 1932, 25, 128-131.
26. Furfey, Paul Hanly: The measurement of developmental age. *Catholic University of America, Educational Research Bull.*, 1927, 2, No. 10, Pp. 40.
27. Garrison, K. C.: A study of some factors related to leadership in high school. *Peabody J. Educ.*, 1933, 11, 11-17.
28. Gates, Georgina Strickland: An experimental study of the growth of social perception. *J. Educ. Psychol.*, 1923, 14, 449-461.
29. Goodenough, Florence L.: Inter-relationships in the behavior of young children. *Child Develop.*, 1930, 1, 29-47.
30. Goodenough, Florence L., and Leahy, Alice M.: The effect of certain family relationships upon the development of personality. *Ped. Sem. & J. Genet. Psychol.*, 1927, 34, 45-71.
31. Greenberg, Pearl J.: Competition in children: An experimental study. *Amer. J. Psychol.*, 1932, 44, 221-248.
32. Gregg, Alice, Miller, Marion, and Linton, Ethel: Laughter situations as an indication of social responsiveness in young children. [In] Thomas, Dorothy Swaine, and associates: *Some New Techniques for Studying Social Behavior*. Teach. Coll., Columbia Univ., *Child Develop. Monog.*, 1929, No. 1, Pp. viii, 203. (p. 86-98)
33. Gruenberg, Sidonie: *Your child today and tomorrow: Some practical counsel for parents*. 3rd ed. Philadelphia, Pa.: Lippincott, 1928. Pp. 255.
34. Hagman, Elizabeth Pleger: The companionships of pre-school children. *Univ. Iowa Stud., Stud. in Child Welfare*, 1933, 7, No. 4, Pp. 69.
35. Hartshorne, Hugh, and May, Mark A.: *Studies in the nature of character*. I. *Studies in deceit*. Book one: *General methods and results*. New York: Macmillan, 1928. Pp. xxi, 414.
36. Hay, Louise, and Kappenburg, Beatrice: *The social adjustment of*

- children of low intelligence: Part III. *Smith Coll. Stud. in Social Work*, 1931-1932, 2, 146-174.
37. Hubbard, Ruth M.: A method of studying spontaneous group formation. [In] Thomas, Dorothy Swaine, and associates: *Some New Techniques for Studying Social Behavior*. Teach. Coll., Columbia Univ., Child Develop. Monog., 1929, No. 1, Pp. viii, 203. (p. 76-85)
 38. Jack, Lois M.: An experimental study of ascendent behavior in pre-school children. [In] *Researches in Child Behavior*. Univ. Iowa Stud., Stud. in Child Welfare, 1934, 9, No. 1, Pp. 171. (p. 5-65)
 39. James, H. W.: Honesty as a character trait among young people. *J. Educ. Res.*, 1932-1933, 26, 572-578.
 40. Jenkins, Gladys Gardner: Factors involved in children's friendships. *J. Educ. Psychol.*, 1931, 22, 440-448.
 41. Kanner, L., and Lachman, S. E.: The contribution of physical illness to the development of behavior disorders in children. *Ment. Hygiene*, 1933, 17, 605-617.
 42. Kenderdine, Margaret. Laughter in the pre-school child. *Child Develop.*, 1931, 2, 228-230.
 43. Koch, Helen Lois: Popularity in preschool children: Some related factors and a technique for its measurement. *Child Develop.*, 1933, 4, 164-175.
 44. Laycock, S. R.: Adjustment of superior and inferior school children. *J. Soc. Psychol.*, 1933, 4, 353-366. Abstr. No. 1412, *Psychol. Abstr.*, 1934, 8, 144.
 45. Levy, John: A quantitative study of behavior problems in relation to family constellation. *Amer. J. Psychiat.*, 1930-1931, 10 (old series 87), 637-654.
 46. Levy, John: The impact of cultural forms upon children's behavior. *Ment. Hygiene*, 1932, 16, 208-220.
 47. Loomis, Alice Marie: A preliminary study of the physical contacts of nursery school children. [In] Thomas, Dorothy Swaine, and associates: *Some New Techniques for Studying Social Behavior*. Teach. Coll., Columbia Univ., Child Develop. Monog., 1929, No. 1, Pp. viii, 203. (p. 55-75)
 48. Maller, J. B.: Size of family and personality of offspring. *J. Soc. Psychol.*, 1931, 2, 3-27.
 49. Marston, Leslie R.: The emotions of young children: An experimental study in introversion and extroversion. *Univ. Iowa Stud., Stud. in Child Welfare*, 1925, 3, No. 3, Pp. 99.
 50. Nelson, Janet Fowler: Personality and intelligence. New York: Teach. Coll., Columbia Univ., Child Develop. Monog., 1931, No. 4, Pp. 62.
 51. Parsley, Mannie: The delinquent girl in Chicago: Three studies. III. The influence of ordinal position and size of family. *Smith Coll. Stud. Social Work*, 1932-1933, 3, 274-283.
 52. Parten, Mildred B.: Leadership among preschool children. *J. Abnorm. & Soc. Psychol.*, 1932-1933, 27, 430-440.

53. Parten, Mildred B.: Social participation among pre-school children. *J. Abnorm. & Soc. Psychol.*, 1932-1933, 27, 243-269.
54. Rand, Winifred, Sweeny, Mary E., and Vincent, E. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
55. Salusky, A. S.: Collective behavior of children at a preschool age. *J. Soc. Psychol.*, 1930, 1, 367-378.
56. Seagoe, M. V.: Factors influencing the selection of associates. *J. Educ. Res.*, 1933, 27, 32-40. Abstr. No 5972, *Psychol Abstr.*, 1933, 7, 731-732.
57. Shaw, Clifford R, and McKay, Henry D.: Social factors in juvenile delinquency: A study of the community, the family, and the gang in relation to delinquent behavior. Report on the Causes of Crime. Vol. II. National Commission on Law Observance and Enforcement, Report No. 13. Washington, D C.: Government Printing Office, 1931. Pp. xv, 401.
58. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
59. Thom, Douglas A: Everyday problems of the everyday child. New York: Appleton, 1929. Pp xiii, 349.
60. Tuttle, Harold Saxe: Honesty trends in children. *J Educ Sociol.*, 1931-1932, 5, 233-239.
61. Walsh, Mary Elizabeth: The relation of nursery school training to the development of certain personality traits. *Child Develop.*, 1931, 2, 72-73.
62. Wellman, Beth: The school child's choice of companions. *J. Educ. Res.*, 1926, 14, 126-132.
63. Williams, H. D.: Causes of social maladjustment in children. (*Univ. Iowa Stud. Psychol.*, No 15) *Psychol. Monog.*, 1932, 43, No. 1, 276-300. Abstr. No 4160, *Psychol Abstr.*, 1932, 6, 514.
64. Wislitzky, Sonja: Beobachtungen uber das soziale Verhalten im Kindergarten. *Zsch. f Psychol*, 1928, 107, 179-188.
65. Woodrow, Herbert, and Bemmels, Violet: Overstatement as a test of general character in pre-school children. *J. Educ. Psychol.*, 1927, 18, 239-246.
66. Zachry, Caroline B.: Personality adjustments of school children. New York: Charles Scribner's Sons [c. 1929], Pp. xiii, 306.

BASIC DATA FOR GENERALIZATIONS RELATIVE TO LANGUAGE DEVELOPMENT

Generalization	Contributors										Research Studies
	Adler (1)	Arlett (2)	Blanton and Blanton (6)	Cameron (12)	Faegre and Anderson (19)	Fenton (20)	Groves (24)	Strang (43)	Thom (45)	Blanton (5)	
Stages in speech development	x	x	x	x	x	x		x			
Speech as an outgrowth of "instinctive tendencies"						x					
Language development other than vocabulary; sex, age differences, etc.	x	x	x		x	x		x	x		Boyd (7); Brainard (8); Brandenburg and Brandenburg (9); Descocudres (17); Drever (18); Fisher (21); Hattwick (25); Holmes (26); Hoppes (27); LaBrant (28); McCarthy (30); Nice (31, 32); Oatman (34); Pal (35); Smith (40, 42); Terman (44); Zye (50)
Size and richness of vocabulary at different age levels; relation to intelligence, sex differences, etc.	x	x	x		x	x		x			Bateman (3, 4); Brandenburg (10); Court (13); Dawson (15); Descocudres (17); Drever (18); Goodenough (23); Holmes (26); Hoppes (27); McCarthy (30); Nice (33); Oatman (34); Pal (35); Piaget (36); Prescott (37); Root (38); Rugg, Kreuger, and Sondergaard (39); Smith (42); Thomson and Smith (46); Van Alstyne (47); Zye (50)
Importance of using correct speech and language, clear pronunciation, etc.			x	x		x	x	x			
Incentives to use speech	x		x								

The effect of ridicule, nagging, and constant correcting upon speech development	x				x	
Effect of conversation with child		x			x	
Imitation as an aid in speech development				x		
Relation of unhealthy emotional attitude and of negativism to speech development		x			x	
Most frequently used words in the English language						
Methods of recording a vocabulary						Brandenburg and Brandenburg (9); Descoedres (17); McCarthy (30); Smith (42); Van Alstyne (47)
Relation of illness, deafness, etc., to speech development		x			x	
Speech defects relative to social maladjustment	x					
Letter sound substitution and omission		x				
Stuttering	x	x				
The child's questions; their significance in language development						Brandenburg and Brandenburg (9); Busse (11); Davis (14); Piaget (36); Smith (41)
Pictures in relation to language development						
Stories in relation to language development		x			x	
Dramatization and language development						
The function of language in the child's life					x	McCarthy (30); Piaget (36); Waring (48)

Contributors		Research Studies	
Generalization			
Adler (1)			
Arlett (2)			
Blanton and			
Blanton (6)			
Cameron (12)			
Faegre and			
Anderson (19)			
Fenton (20)			
Groves (24)			
Strang (43)			
Thom (45)			
Language development in relation to social status and environment			Brandenburg (10); Day (16); Descouidres (17); Drever (18); Gesell (22); McCarthy (30); Root (38); Smith (42); Van Alstyne (47)
Rate of word learning			Brandenburg (10)
Personality traits and social attitudes as revealed by speech			Hoppes (27); McCarthy (29); Nice (33); Piaget (36); Rugg, Kreuger, and Sondergaard (39); Smith (42); Zylve (50)
Rhythm in speech			Rugg, Kreuger, and Sondergaard (39)
Rate of speaking			Dawson (15); McCarthy (29, 30)

REFERENCES ON LANGUAGE DEVELOPMENT

1. Adler, Alfred: The education of children. Trans. by Eleanore and Friedrich Jensen. New York: Greenberg [c. 1930], Pp. 309.
2. Arlitt, Ada Hart: The child from one to six: Psychology for parents. New York: McGraw-Hill, 1930. Pp. xix, 188.
3. Bateman, W. G.: The naming of colors by children: The Binet test. *Ped. Sem.*, 1915, 22, 469-486.
4. Bateman, W. G.: Two children's progress in speech. *J. Educ. Psychol.*, 1915, 6, 475-493.
5. Blanton, Margaret Gray: The behavior of the human infant during the first thirty days of life. *Psychol. Rev.*, 1917, 24, 456-483.
6. Blanton, Smiley, and Blanton, Margaret Gray: Child guidance. New York: Century [c. 1927], Pp. xviii, 301.
7. Boyd, William: The development of sentence structure in childhood. *Brit. J. Psychol. (Gen. Sect.)*, 1926-1927, 17, 181-191.
8. Brainard, P. P.: Some observations of infant learning and instincts. *Ped. Sem. & J. Genet. Psychol.*, 1927, 34, 231-254.
9. Brandenburg, G. C., and [Brandenburg], Julia: Language development during the fourth year. The conversation. *Ped. Sem.*, 1919, 26, 27-40.
10. Brandenburg, George C.: Psychological aspects of language. *J. Educ. Psychol.*, 1918, 9, 313-332.
11. Busse, Hans. Kinderfragen im Fragekasten. [Children's questions in the question box] *Zsch. f. Angew. Psychol.*, 1929, 32, 398-453.
12. Cameron, Hector Charles: The nervous child. 4th ed. New York: Oxford University Press, 1929. Pp. 250.
13. Court, Sophie Ravitoh Altshiller. Numbers, time and space in the first five years of a child's life. *Ped. Sem.*, 1920, 27, 71-89.
14. Davis, Edith A.: The form and function of children's questions. *Child Develop.*, 1932, 3, 57-74. *Abstr. No. 157, Child Develop. Abstr.*, 1933, 7, 65.
15. Dawson, L. O.: A study of the development of the rate of articulation. *Elem. School J.*, 1929, 29, 610-615.
16. Day, Ella J.: The development of language in twins: I. A comparison of twins and single children. II. Their resemblances and differences. *Child Develop.*, 1932, 3, 179-199; 298-316.
17. Descoeudres, Alice: Le développement de l'enfant de deux à sept ans. Paris: Delachaux et Niestle, n.d. Pp. 327.
18. Drever, James: A study of children's vocabularies. I, II, III. *J. Exper. Ped.*, 1915-1916, 3, 34-43; 96-103; 182-188.
19. Faegre, Marion L., and Anderson, John E.: Child care and training. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
20. Fenton, Jessie Chase: A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.

21. Fisher, Mary Shattuck: Language patterns of pre-school children. *J. Exper. Educ.*, 1932-1933, 1, 70-85.
22. Gesell, Arnold, and Lord, Elizabeth Evans: Psychological comparison of nursery school children from homes of low and high economic status. *Ped. Sem. & J. Genet. Psychol.*, 1927, 34, 339-356.
23. Goodenough, Florence L.: The Kuhlman-Binet tests for children of preschool age: A critical study and evaluation. University of Minnesota, Institute of Child Welfare Monograph Series, No. 2. Minneapolis, Minn.: University of Minnesota Press [c. 1928], Pp. 146.
24. Groves, Ernest R., and Groves, Gladys Hoagland: Wholesome childhood. Boston, Mass.: Houghton Mifflin [c. 1924], Pp. xxi, 183.
25. Hattwick, Melvin S.: A preliminary study of pitch inflection in the speech of preschool children. [In] Williams, Harold M., Sievers, Clement H., and Hattwick, Melvin S.: *The Measurement of Musical Development*, Univ. Iowa Stud., Stud. in Child Welfare, 1932, 7, No. 1, Pp. 191. (p. 173-191)
26. Holmes, Urban T.: The phonology of an English-speaking child. *Amer. Speech*, 1926-1927, 2, 219-225.
27. Hoppes, William Calvin: The development of written expression among children of elementary-school grades. University of Chicago, Unpublished Doctor's dissertation, 1931.
28. LaBrant, Lou L.: A study of certain language developments of children in grades four to twelve, inclusive. *Genet. Psychol. Monog.*, 1933, 14, No. 5, 387-491.
29. McCarthy, Dorothea: A comparison of children's language in different situations and its relation to personality traits. *Ped. Sem. & J. Genet. Psychol.*, 1929, 36, 583-591.
30. McCarthy, Dorothea A.: The language development of the pre-school child. University of Minnesota, Institute of Child Welfare Monograph Series, No. 4. Minneapolis, Minn.: University of Minnesota Press, 1930. Pp. xiii, 174.
31. Nice, M. M.: An analysis of the conversation of children and adults. *Child Develop.*, 1932, 3, 240-246. Abstr. No. 1337, *Child Develop. Abstr.*, 1933, 7, 514-515.
32. Nice, M. M.: A child's attainment of sentence. *Ped. Sem. & J. Genet. Psychol.*, 1933, 42, 216-224. Abstr. No. 3026, *Psychol. Abstr.*, 1933, 7, 374.
33. Nice, Margaret Morse: Concerning all day conversations. *Ped. Sem.*, 1920, 27, 166-177.
34. Oatman, Miriam E.: A boy's development at eighteen months. *Ped. Sem.*, 1921, 28, 52-59.
35. Pal, G.: The vocabulary of a Bengalee girl. *Indian J. Psychol.*, 1926, 1, 203-213. Abstr. No. 2277, *Psychol. Abstr.*, 1927, 1, 552.
36. Piaget, Jean: The language and thought of the child. Trans. by Marjorie Warden. New York: Harcourt, Brace, 1926. Pp. xxiii, 246.
37. Prescott, Daniel Alfred: *Le vocabulaire des enfants des écoles pri-*

- maires de Genève. [The vocabulary of elementary school children in Geneva.] *Arch. de Psychol.*, 1929, 21, 225-261.
38. Root, William T., Jr.: A socio-psychological study of fifty-three super normal children. *Psychol. Monog.*, 1921, 29, No. 133, Pp. 134.
 39. Rugg, Harold, Kreuger, Louise, and Sondergaard, Arensa: Studies in child personality: I. A study of the language of kindergarten children. *J. Educ. Psychol.*, 1929, 20, 1-18.
 40. Smith, M. E.: Grammatical errors in the speech of pre-school children. *Child Develop.*, 1933, 4, 183-190. Abstr. No. 732, *Psychol. Abstr.*, 1934, 8, 78.
 41. Smith, M. E.: The influence of age, sex, and situation on the frequency, form, and function of questions asked by preschool children. *Child Develop.*, 1933, 4, 201-213. Abstr. No. 733, *Psychol. Abstr.*, 1934, 8, 78.
 42. Smith, Madorah Elizabeth: An investigation of the development of the sentence and the extent of vocabulary in young children. *Univ. Iowa Stud., Stud. in Child Welfare*, 1926, 3, No. 5, Pp. 92.
 43. Strang, Ruth: An introduction to child study. New York. Macmillan, 1930. Pp. xiii, 550.
 44. Terman, Lewis M.: Genetic studies of genius: Vol. I. Mental and physical traits of a thousand gifted children. Stanford University, Calif.: Stanford University Press, 1925. Pp. xv, 648.
 45. Thom, Douglas A.: Everyday problems of the everyday child. New York: Appleton, 1929. Pp. xiii, 349.
 46. Thomson, Godfrey H., and Smith, Frank W.: The recognition vocabulary of children. *Brit. J. Psychol.*, 1915, 8, 48-51.
 47. Van Alstyne, Dorothy. The environment of three-year-old children. Factors related to intelligence and vocabulary tests. *Teach. Coll., Columbia Univ., Cont. to Educ.*, 1929, No. 366, Pp. vii, 108.
 48. Waring, Ethel B.: The relation between early language habits and early habits of conduct control. *Teach. Coll., Columbia Univ., Cont. to Educ.*, 1927, No. 260, Pp. 125.
 49. Wellman, Beth L., Case, Ida Mae, Mengert, Ida Gaarder, and Bradbury, Dorothy E.: Speech sounds of young children. *Univ. Iowa Stud., Stud. in Child Welfare*, 1931, 5 No. 2, Pp. 82.
 50. Zyve, Claire T.: Conversation among children. *Teach. Coll. Rec.*, 1927, 29, 46-61.

BASIC DATA FOR GENERALIZATIONS RELATIVE TO PHYSICAL GROWTH

Generalization	Contributors										Research Studies
	Arlett (1)	Conklin (13)	Farre and Anderson (19)	Hollingsworth (32)	Inskip (33)	Kugelmass (41)	Langdon (42)	Rand, Sweeney, and Vincent (77)	Strang (94)		
The relation of the endocrine glands to physical growth		x		x	x	x	x	x	x	x	Engelbach (17); Schiller (86)
Relation of nutrition to physical growth	x		x		x	x	x	x	x	x	Morgan (58)
Influence of heredity upon physical development				x		x	x	x			Wissler (102) Much of the research in this field was completed before 1925 and is summarized by material already included.
Influence of environment upon physical development		x		x	x	x					Newman (64) Much of the research in this field was completed before 1925 and is summarized by material already included
Posture: Identification of good or poor form, and influence on physical development					x						
Physical development of the newborn			x	x	x	x	x	x			Cho (10); Farrell (20); Gerschenson (24); Heuler (29); Irwin (34); Marquis (54); Meneses and Holly (56); Matel (61); Nicolaeff (65)
Height and weight in relation to age,											Bissett and Laslett (7); Boas (8); Cattell (9); Davenport (14); Hansen (25); Len-

sex, and race	x	x	x	x	x	x	x	dorff-Kugler (45); McGonigle and McKinlay (50); Murray (60); Myers (62); Nikolaev (67); Scammon (84)
Variations in growth: Body types, changes in bodily proportions during growth, and cycles of body growth	x	x	x	x	x	x	x	Bakwin and Bakwin (2); Freeman and Searfoss (23); Hejninian and Hatt (26); Lucas and Pryor (49); McKay and Brown (51); Miller (57); Palmer (69); Richet (78); Turner, Lytle, and Winmore (99)
Bone growth, including sex differences	x	x	x	x	x	x	x	Baldwin, Busby, and Garside (5); Chuchukalo (11); Davics and Parsons (15); Estabrooks (18); Fleming (21); Hellman (27); Heuler (29); Hirsch (30); Munk (59); Neher (63); Paterson (70); Pryor (75, 76); Sawtell (80, 81, 82); Stettner (93); Todd (96, 97, 98); Wallis (100); Wissler (102)
Growth other than bone and muscle	x	x	x	x	x	x	x	Baldwin (3); DeBuys and Samuel (16); Kissane (38); Larimore (43); Lincoln (46); Lincoln and Nicolson (47); Lincoln and Spillman (48); Nicolaeff (66); Simkins (89); Siwe (90); Willson (101); Wolff (104)
The relation of exercise to muscle growth and motor control	x	x	x	x	x	x	x	Opitz und Isbert (68)
Influence of daily régime on physical development	x	x	x	x	x	x	x	Baldwin and Smith (4); Cattell (9); Cohen (12); Hellman (28); Jones, Larsen, and Pritchard (35); Kappes (36); Kempf and McKay (37); McKeag (52); Magee; Drain, and Boyd (53); Mellanby and Pattison (55); Neher (63); Perkins (73); Roskin (79); Schultz (88); Skatoud (91)
Dentition								

Generalization	Contributors										Research Studies
	Artitt (1)	Conklin (13)	Farre and Anderson (19)	Hollingsworth (32)	Inskip (33)	Kugelmass (41)	Langdon (42)	Rand, Sweeney, and Vincent (77)	Strang (94)		
Disease prevention, inoculation, and immunization			x			x			x	Harnes (6)	
Importance of early discovery of physical defects				x	x				x		
The school's responsibility for the physical development of the child				x	x				x	Hoke (31)	
Pubertal changes	x			x	x				x	Kubitschek (40); Leal (46); Priesel und Wagner (74)	
Parental motives and methods of studying physical growth		x	x	x			x				
Need of standardized techniques in measuring growth				x	x			x			
Cell growth and development of the embryo		x				x		x			
Fetal growth		x		x		x		x			Forbes and Forbes (22); Klein and Scammon (39); Peiper (71, 72); Scammon and Calkins (85); Streeter (95)
Reproductive organs								x			
Pregnancy changes and hygiene of pregnancy						x		x			

REFERENCES ON PHYSICAL GROWTH

1. Arlitt, Ada Hart: *The child from one to six: Psychology for parents.* New York: McGraw-Hill, 1930. Pp. xix, 188.
2. Bakwin, Harry, and Bakwin, Ruth Morris: *Types of body build in infants.* *Amer. J. Dis. Child.*, 1929, 37, 461-472.
3. Baldwin, Bird T.: *Breathing capacity according to height and age of American-born boys and girls of school age.* *Amer. J. Physical Anthropol.*, 1928, 12, 257-267.
4. Baldwin, Bird T., and Smith, Madora[h] E.: *Physical growth of two generations of one family.* *J. Heredity*, 1925, 16, 243-258.
5. Baldwin, Bird T., Busby, Laura M., and Garside, Helen V.: *Anatomic growth of children: A study of some bones of the hand, wrist, and lower forearm by means of roentgenograms.* *Univ. Iowa Stud. Stud. in Child Welfare*, 1928, 4, No. 1, Pp. 88.
6. Barnes, M. E.: *Understanding your child: Some facts about immunity to disease.* State University of Iowa, Mimeographed Radio Talk, October 26, 1931, Pp. 19.
7. Bissett, Lee, and Laslett, H. R.: *A study of height, weight, and age among high school boys.* *J. Juvenile Res.*, 1932, 16, 291-297. Abstr. No. 1187, *Child Develop. Abstr.*, 1933, 7, 458.
8. Boas, Franz: *Studies in growth.* *Human Biol.*, 1932, 4, 307-350. Abstr. No. 1188, *Child Develop. Abstr.*, 1933, 7, 459.
9. Cattell, Psyche: *Dentition as a measure of maturity.* *Harvard Monog. Educ.*, 1928, No. 9, Pp. 91.
10. Cho, D.: *Histological investigation of the digestive tracts of the human fetus.* I. Development of the stomach. II. Development of the small intestines. *Japanese J. Obstetr. & Gynecol.*, 1931, 14, No. 4, 316-323; 324-330. Abstr. No. 889, *Child Develop. Abstr.*, 1933, 7, 342-343.
11. [Chuchukalo, G. I.]: [Development of the thoracic basket during the school age.] [French résumé.] [*Anthrop. Ukraine*], 1926, 1, 95-113. Abstr. No. 890, *Child Develop. Abstr.*, 1933, 7, 343.
12. Cohen, Joseph T.: *The dates of eruption of permanent teeth in a group of Minneapolis children: A preliminary report.* *J. Amer. Dental Assoc.*, 1928, 15, 2337-2341.
13. Conklin, Edwin Grant: *Heredity and environment: In the development of men.* 6th ed. rev. Princeton, N. J.: Princeton University Press, 1929. Pp. xv, 385.
14. Davenport, C. B.: *Human metamorphosis.* *Amer. J. Physical Anthropol.*, 1926, 9, 205-232.
15. Davies, D. A., and Parsons, F. G.: *The age order of the appearance and union of the normal epiphyses as seen by X-rays.* *J. Anat.*, 1927-1928, 62, 58-71.
16. DeBuys, L. R., and Samuel, E. C.: *Growth of the heart: Roentgenographic observations.* *Amer. J. Dis. Child.*, 1925, 30, 355-358.
17. Engelbach, William: *The growth hormone: Report of a case of juvenile hypopituitarism treated with Evans' growth hormone.* *Endo-*

- crinology, 1932, 16, 1. Abstr. No. 6, Child Develop. Abstr., 1933, 7, 2-4.
18. Estabrooks, G. H.: The relation between cranial capacity, relative cranial capacity and intelligence in school children. *J. Appl. Psychol.*, 1928, 12, 524-529.
 19. Faegre, Marion L., and Anderson, John E.: *Child care and training*. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
 20. Farrell, John T., Jr.: The roentgen appearance of the chest of the new-born infant. *Amer. J. Roentgenology & Radium Therapy*, 1930, 24, 140-146. Abstr. No. 2, Child Develop. Abstr., 1934, 8, 1.
 21. Fleming, R. M.: Anthropological studies of children. *Eugenics Rev.*, 1926-1927, 18, 294-301.
 22. Forbes, H. S., and Forbes, H. B.: Fetal sense reaction: Hearing. *J. Comp. Psychol.*, 1927, 7, 353-355.
 23. Freeman, R. G., Jr., and Searfoss, Raymond: Growth of private day school boys. *Arch. Pediat.*, 1929, 46, 450-455.
 24. Gerschenson, A. O.: Zur Frage des Einflusses einiger Faktoren auf das Gewicht der Neugeborenen. *Zeitschrift für Kinderheilkunde*, 1931, 51, 20-30. Abstr. No. 296, Child Develop. Abstr., 1933, 7, 107-108.
 25. Hansen, Soren: Om Legemsvaegt og Proportionering Hos Skoleborn. [Weight variations and proportions of school children.] *Med. Danmarks Antropologi*, 1932, 3, 374-384. Abstr. No. 1479, Child Develop. Abstr., 1933, 7, 562.
 26. Hejinian, Lucea, and Hatt, Elise: The stem-length: Recumbent-length ratio as an index of body type in young children. *Amer. J. Physical Anthropol.*, 1929, 13, 287-307.
 27. Hellman, Milo: Ossification of epiphyseal cartilages in the hand. *Amer. J. Physical Anthropol.*, 1927-1928, 11, 223-258.
 28. Hellman, Milo: Orthodontia in relation to development of child dentition. [Reprinted from *Dental Survey*, September, 1931.] Abstr. No. 4, Child Develop. Abstr., 1934, 8, 2-5.
 29. Heuler, K. M.: Besteht eine Korrelation zwischen Alter und Knochenstruktur? *Zschr. f. Zellforsch. u. mikr. Anat.*, 1928, 7, 41-54.
 30. Hirsch, Nathaniel D. M.: Cephalic index of American-born children of three foreign groups. *Amer. J. Physical Anthropol.*, 1927, 10, 79-90.
 31. Hoke, K. J.: The health of the intellectually superior pupil. [In] *The Twenty-Third Yearbook of the National Society for the Study of Education. Part I: Report of the Society's Committee on the Education of Gifted Children*. Bloomington, Ill.: Public School Publishing Co., 1924. Pp. 443. (p. 238-246)
 32. Hollingsworth, H. L.: *Mental growth and decline: A survey of developmental psychology*. New York: Appleton, 1927. Pp. xii, 396.
 33. Inskip, Annie Dolman: *Child adjustment: In relation to growth and development*. New York: Appleton, 1930. Pp. xiv, 427.
 34. Irwin, Orvis C.: The amount and nature of activities of newborn in-

- infants under constant external stimulating conditions during the first ten days of life. *Genet. Psychol. Monog.*, 1930, 8, No. 1, 1-92.
35. Jones, Martha R., Larsen, Nils P., and Pritchard, George P.: Dental disease in Hawaii: VI. The relationship between bone and tooth development in infants. *Amer. J. Dis. Child.*, 1933, 45, 789-798. Abstr. No. 118, *Child Develop. Abstr.*, 1934, 8, 55.
 36. Kappes, Louise O.: Factors in the decay of teeth. *Amer. J. Dis. Child.*, 1928, 36, 268-276.
 37. Kempf, Grover A., and McKay, Fredrick S.: Mottled enamel in a segregated population. U. S. (A.) Treas. Dept. Publ. Health Repts., 1930, 45 (48), 2923-2940. Abstr. No. 897, *Child Develop. Abstr.*, 1933, 7, 345.
 38. Kissane, R. W.: Area of the body surface and measurements of the normal heart in children. II. Roentgen study. *Arch. Internal Med.*, 1930, 45, No. 2, 241-247.
 39. Klein, Albert D., and Scammon, Richard E.: Relations between surface area, weight and length of the human body in prenatal life. *Proc. Soc. Exper. Biol. & Med.*, 1929-1930, 27, 456-461. Abstr. No. 12, *Child Develop. Abstr.*, 1933, 7, 5-6.
 40. Kubitschek, P. E.: Sexual development of boys with special reference to appearance of secondary sexual characters and their relationship to structural and personality types. *J. Nervous & Mental Dis.*, 1932, 76, 425-451. Abstr. No. 587, *Child Develop. Abstr.*, 1933, 7, 224.
 41. Kugelmass, I. Newton: The story of infancy: A modern handbook of the baby's development, feeding, care, training, difficulties, and disease-prevention. New York: Century [c. 1930], Pp. xvii, 327.
 42. Langdon, Grace: Home guidance for young children: A parents' handbook. New York: John Day [c. 1931], Pp. xvii, 405.
 43. Larimore, Joseph W.: The human large intestine in the new-born and in the adult. *Annals Clinical Med.*, 1926-1927, 5, 439-463.
 44. Leal, Mary A.: The relationship between height and physiological maturing. *J. Educ. Res.*, 1932, 25, 168-177.
 45. Lendorff-Kugler, Erica: Studier over Kobenhavnske Skoleborns Vaekstforhold. [Studies of height and weight of Copenhagen school children.] *Med. Danmarks Antropologi* 1932 [no vol. given], 395-404. Abstr. No. 1482, *Child Develop. Abstr.*, 1933, 7, 563-564.
 46. Lincoln, Edith M.: The hearts of normal children: I. Clinical studies including notes on effort syndrome. *Amer. J. Dis. Child.*, 1928, 35, 398-410.
 47. Lincoln, Edith M., and Nicolson, Gertrude H. B.: The hearts of normal children. III. Electro-cardiographic records. *Amer. J. Dis. Child.*, 1928, 35, 1001-1020.
 48. Lincoln, Edith M., and Spillman, Ramsay: Studies on the hearts of normal children. II. Roentgen-ray studies. *Amer. J. Dis. Child.*, 1928, 35, 791-810.
 49. Lucas, William Palmer, and Pryor, Helen Brenton: Physical measurements and physiological processes in young children: Some correlations. *J. Amer. Med. Assoc.*, 1931, 97, 1127-1133.

50. McGonigle, G. C. M., and McKinlay, P. L.: An investigation into the effect of certain factors upon child health and child weight. *J. Hygiene*, 1932, 32, 465-488. Abstr. No. 10, *Child Develop. Abstr.*, 1934, 8, 8.
51. McKay, H., and Brown, M. A.: Seasonal variation in the rate of growth of preschool children. *Ohio Agric. Exp. Stat., Bull. No. 482*, July, 1931. Abstr. No. 332, *Child Develop. Abstr.*, 1933, 7, 123.
52. McKeag, R. H.: Recent dental research. *Bristol Med. Chir. J.*, 1930, 47, 143-148. Abstr. No. 902, *Child Develop. Abstr.*, 1933, 7, 347.
53. Magee, Catherine, Drain, C. L., and Boyd, J. D.: Dental caries: Influence of potential mouth acidity. *Proc. Soc. Exper. Biol. & Med.*, 1928-1929, 26, 718-719.
54. Marquis, Dorothy Postle: Can conditioned responses be established in the newborn infant? *Ped. Sem. & J. Genet. Psychol.*, 1931, 39, 479-492.
55. Mellanby, May, and Pattison, C. Lee: Some factors of diet influencing the spread of caries in children. *Brit. Dental J.*, 1926, 47, 1045-1057.
56. Menees, Thomas O., and Holly, Leland E.: The ossification in the extremities of the new-born. *Amer. J. Roentgenology & Radium Therapy*, 1932, 28, 389-390.
57. Miller, M. B.: Sigurd's types among the children of Leningrad. *Pediatrics*, 1930, 14, 281. Abstr. No. 21, *Child Develop. Abstr.*, 1933, 7, 8-9.
58. Morgan, Agnes Fay, Hatfield, Glatha D., and Tanner, Martha A.: A comparison of the effects of supplementary feeding of fruits and milk on the growth of children. *Amer. J. Dis. Child.*, 1926, 32, 839-849.
59. Munk, Anton: Die Kerngrößen der Handwurzelknochen und des distalen Unterarmabschnittes bei normalwüchsigen Kindern von der Geburt bis zur Pubertät. *Arch. f. Kinderh.*, 1927, 80, 185-194.
60. Murray, Annabel M. T.: Children of the poor in town and country: The application of some anthropometric measurements. *Edinburgh Medical J.*, 1928, 35, 261-280.
61. Mutel: Les dehiscences normales lombosacrées. *Compt. Rend. Assoc. Anat. France (Soc. Impress. Topog. Nancy)*, 1926, 422-429. Abstr. No. 590, *Child Develop. Abstr.*, 1933, 7, 225.
62. Myers, Bernard: Statistics concerning the height, weight and other measurements of fourteen hundred London children. *Brit. J. Children's Dis.*, 1926, 23, 87-107.
63. Neher, Rainer: Untersuchungen über die Ossifikation des proximalen Femurendes. *Sitzungsber. Phys.-Med. Soc. Erlangen*, 1929 (1930), 61, 321-368. Abstr. No. 905, *Child Develop. Abstr.*, 1933, 7, 348-349.
64. Newman, H. H.: Mental and physical traits of identical twins reared apart: Case IV. Twins Mary and Mabel, and review of the first four cases studied. *J. Heredity*, 1932, 23, 2-18.
65. Nicolaeff, L.: Les différences dans les dimensions des nouveau-nés. [Differences in the measurements of new born infants.] *Bull. Soc.*

- Etude Formes Humaines, 1928, 6 (314), 376-399. Abstr. No. 906, Child Develop. Abstr., 1933, 7, 349.
66. Nicolaëff, Léon: Influence de l'inanition sur la morphologie des organes infantiles. La Presse Medicale, 1923, No. 96, 1007-1009.
 67. (Nikolaev, L. P.): (Physical development of Ukrainian children of school age.) (French résumé.) Anthropol. Ukraine, 1926, 1, 5-48. Abstr. No. 909, Child Develop. Abstr., 1933, 7, 350.
 68. Opitz, Hans, und Isbert, Heimo: Muskelhärtemessungen bei Kindern. II. Mitteilung. Der Einfluss von Muskelarbeit auf die Muskelhärte. III. Mitteilung. Der Einfluss des Aufenthaltes auf dem Lande und an der See auf die Muskelhärte "erholungsbedürftiger" Grosstadtkinder. Jahrb. f. Kinderh., 1926, 111, 165-176; 177-184.
 69. Palmer, Carroll E.: Seasonal variation of average growth in weight of elementary school children. U. S. Public Health Service, Public Health Reports, 1933, 48, 211-233. Abstr. No. 710, Psychol. Abstr., 1934, 8, 75.
 70. Paterson, R. S.: A radiological investigation of the epiphyses of the long bones. J. Anat., 1929-1930, 64, 28-46.
 71. Peiper, Albrecht: Sinnesempfindungen des Kindes vor seiner Geburt. Monatschr. f. Kinderh., 1925, 29, 236-241.
 72. Peiper, Albrecht: Über die Helligkeits- und Farbenempfindungen der Frühgeburten. Arch. f. Kinderh., 1927, 80, 1-20.
 73. Perkins, Frances J.: The relation of dentition to mental age. Ped. Sem. & J. Genet. Psychol., 1926, 33, 387-398.
 74. Priesel, Richard, und Wagner, Richard: Gesetzmässigkeiten im auftreten der extragenitalen sekundären Geschlechtsmerkmale bei Mädchen. [Zsch. f. ges. Anat.] Zweite Abteilung. Zsch. f. Konstitutionslehre, 1931, 15, 333-352. Abstr. No. 914, Child Develop. Abstr., 1933, 7, 353.
 75. Pryor, J. W.: Time of ossification of bones of the hand in the male and female and union of epiphyses with the diaphyses. Amer. J. Physical Anthropol., 1925, 8, 401-410.
 76. Pryor, J. W.: Difference in the ossification of the male and female skeleton. J. Anat., 1927-1928, 62, 499-506.
 77. Rand, Winifred, Sweeny, Mary E., and Vincent, E. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
 78. Richet, Charles, fils: Rendement de la ration de croissance chez l'enfant. J. Physiol. et Pathol. Gen., 1929, 27, 522-527.
 79. Roskin, Miriam: Mineral content of saliva of children with arrested dental caries. Proc. Soc. Exper. Biol. & Med., 1927-1928, 25, 465-466.
 80. Sawtell, Ruth Otis: Sex differences in the bone growth of children. Amer. J. Physical Anthropol., 1928, 12, 293-302.
 81. Sawtell, Ruth Otis: Ossification and growth of children from one to eight years of age. Amer. J. Dis. Child., 1929, 37, 61-87.
 82. Sawtell, Ruth Otis: Irregular ossification of the extremities of boys and girls. Amer. J. Roentgenol. & Radium Therapy, 1931, 25, 330-335.

83. Scammon, Richard E.: The first serial study of human growth. *Amer. J. Physical Anthropol.*, 1927, 10, 329-336.
84. Scammon, Richard E.: The physical development of the child. [In] Beard, Richard Olding [editor]: Parent education. Minneapolis, Minn.: University of Minnesota Press [c. 1927], Pp. viii, 215. (p. 9-23)
85. Scammon, Richard E., and Calkins, Leroy A.: The development and growth of the external dimensions of the human body in the fetal period. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. xxiii, 365.
86. Schiller, Walter: Über die Aufzucht frühgeborener Kinder mit Folliculin. *Arch. f. Gynaekol.*, 1931, 147, 72-81. Abstr. No. 1235, *Child Develop. Abstr.*, 1933, 7, 474
87. Schlesinger, Eugen: Dynamometrie und Spirometrie bei Kindern und Jugendlichen. *Zsch. f. Kinderh.*, 1927, 43, 232-244
88. Schultz, Adolph H.: The hereditary tendency to eliminate the upper lateral incisors. *Human Biol.*, 1932, 4, 34-40
89. Simkins, Cleveland Sylvester. Development of the human ovary from birth to sexual maturity. *Amer. J. Anat.*, 1932, 51, 465-489.
90. Siwe, Sture: Einige Kurven zur Beleuchtung des Wachstums des zentralen Nervensystems bis zum Alter von 5 Jahren. *Zsch. f. Anat. u. Entwicklungs-Geschichte*, 1930, 92, 796-801.
91. Skaloud, F.: Dentition as a sign of development in children. *Zubní lek. (Suppl., Casop. lékař. česk.)* 1930, 30, 317. Abstr. No. 920, *Child Develop. Abstr.*, 1933, 7, 354-355.
92. Stettner, Ernst¹: Über die Beziehungen der Ossifikation des Handskeletts zu Alter und Längenwachstum bei gesunden und kranken Kindern von der Geburt bis zur Pubertät. *Arch. f. Kinderh.*, 1921, 68, 342-368; 439-466.
93. Stettner, Ernst: Über die Beziehungen der Ossifikation des Handskeletts zu Alter und Längenwachstum bei gesunden und kranken Kindern von der Geburt bis zur Pubertät. *Arch. f. Kinderh.*, 1921, 69, 27-62.
94. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
95. Streeter, George L.: Focal deficiencies in fetal tissues and their relation to intra-uterine amputation. *Carnegie Inst. Washington*, No. 414. *Contrib. Embryol.*, 1930, 22, 1-44. Abstr. No. 923, *Child Develop. Abstr.*, 1933, 7, 356-357.
96. Todd, T. Wingate: The anatomical features of epiphyseal union. *Child Develop.*, 1930, 1, 186-194.
97. Todd, T. Wingate: The roentgenographic appraisal of skeletal differentiation. *Child Develop.*, 1930, 1, 298-310.
98. Todd, T. Wingate: Differential skeletal maturation in relation to sex, race, variability, and disease. *Child Develop.*, 1931, 2, 49-65.
99. Turner, C. E., Lytle, Ellen, and Winnemore, Charlotte: Intermittency in growth as an index of health status. *Amer. J. Pub. Health*, 1932, 22, 455-464.

100. Wallis, Ruth Sawtell: Relative growth of the extremities from two to eighteen years of age. *Amer. J. Physical Anthropol.*, 1931, 16, 171-191.
101. Willson, Herbert G.: Postnatal development of the lung. *Amer. J. Anat.*, 1928, 41, 97-122.
102. Wissler, Clark: Sex differences in the growth of the head. *School & Soc.*, 1927, 25, 143-146.
103. Wissler, Clark: Growth of children in Hawaii, based on observations by Louis R. Sullivan. *Bayard Dominick Expedition Publ* 17, 1930, Pp. 256. *Abstr. No. 605, Child Develop Abstr.*, 1933, 7, 230-231.
104. Wolff, Lotta V.: Systolic blood pressure in early infancy. *Arch. Pediat.*, 1930, 47, 165-170.

BASIC DATA FOR GENERALIZATIONS RELATIVE TO EATING

Generalization	Contributors													Research Studies
	Aldrich (1, 2)	Arlett (3)	Blanton and Blanton (7)	Blatz and Bott (9)	Burnham (10)	Frægre and Anderson (17)	Fenton (18)	Fisher and Gruenberg (20)	Langdon (32)	Rand, Sweeney, and Vincent (37)	Strang (41)	Thom (42)	Wood-Comstock (47)	
Importance of activities related to eating	x		x	x	x			x	x			x	x	Museley (36)
Difference between hunger and appetite	x	x	x	x		x				x				Hill and Van Alstyne (27)
Stages in learning to eat		x	x	x	x	x		x	x	x	x	x		Baker and Blumenthal (4); Clark (11, 12); Dublin and Gebhart (14); Finlay (19); Franzen (21); Gray (23, 24); Gray and Edmonds (25); Gray and Root (26); McCloy (34); Roberts (39)
Regularity of mealtime		x	x	x	x									Ripin and Hetzer (38); other research studies in section on Motor and Intellectual Development
Indexes of nutritional status	x							x	x	x	x	x	x	Gauger (22)
Capacities of the newborn as related to eating	x	x	x	x	x	x	x	x	x	x	x	x	x	Davis (13); Katz and Katz (31)
Introduction of new foods and new implements	x	x	x	x		x	x	x	x	x	x			
Self-selection of diet	x		x	x										

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Generalization	Contributors												Research Studies
	Aldrich (1, 2)	Arlitt (3)	Blanton and Blanton (7)	Blatz and Bott (9)	Burnham (10)	Frægre and Anderson (17)	Fenton (18)	Fisher and Gruenberg (20)	Langdon (32)	Rand, Sweeney, and Vincent (37)	Strang (41)	Thom (42)	Wood-Comstock (47)
Relation of fresh air, sunlight, exercise, and rest to eating habits	x	x	x	x	x	x		x	x	x	x	x	x
Eating between meals	x	x	x	x	x	x			x		x		Moseley (36)
Feeding problems: Types and incidence	x	x	x	x	x		x	x	x		x	x	Johnston (30)
Feeding problems and socioeconomic status	x		x	x	x		x	x	x				Aldrich (1)
Interpretation of occasional loss of desire for food		x		x	x							x	Johnston (30); Maclay (33); Moseley (36); Scholley (40); Tilson (44)
Relation of diet to anorexia	x					x		x		x			Bartlett (6); Johnston (30); Maclay (33); Miyake (35)
Inadequate total adjustment and anorexia			x				x	x					
Irregular schedule and anorexia													Maclay (33); Moseley (36)
Fatigue and anorexia	x	x	x	x	x	x				x		x	
Other causes of anorexia	x	x	x	x	x	x				x			Bartlett (6)
General treatment of anorexia	x		x	x	x	x	x	x			x	x	x

	Moseley (36)	Eliot (16)
Reeducation of parents, nurses, and attendants	x	x
Food idiosyncrasies	x x x	x
Vomiting	x	x
Relation of negativism to an- orexia	x x	x
Relation of dawdling to anor- exia	x x x x	x
Air swallowing: Causes and treatment	x x x	x
Feeding a newborn, somnolent infant		x

REFERENCES ON EATING

1. Aldrich, C. A.: The prevention of poor appetite in children. *Ment. Hygiene*, 1926, 10, 701-711.
2. Aldrich, Charles Anderson: Cultivating the child's appetite. New York: Macmillan, 1927. Pp. xii, 127.
3. Arlitt, Ada Hart: The child from one to twelve: Psychology for parents. Rev. ed. New York: McGraw-Hill, 1931. Pp. xxi, 228.
4. Baker, Josephine, and Blumenthal, J. L.: Methods of determining malnutrition. *Nation's Health*, 1923, 5, 47-50.
5. Barker, Myrtle E.: A study of the group lunch as a means of solving some problems in feeding the pre-school child. University of Chicago, Unpublished Master's thesis, 1924.
6. Bartlett, Walter M.: An analysis of anorexia. *Amer. J. Dis. Child.*, 1928, 35, 26-35.
7. Blanton, Smiley, and Blanton, Margaret Gray. Child guidance. New York: Century [c. 1927], Pp. xviii, 301.
8. Blatz, W. E.: A study of eating habits in a nursery school. [In] Bott, E. A., Blatz, W. E., Chant, Nellie, and Bott, Helen: Observation and training of the fundamental habits in young children. *Genet. Psychol. Monog.*, 1928, 4, 1-161. (p. 89-115)
9. Blatz, William E., and Bott, Helen: Parents and the pre-school child. New York: William Morrow [c. 1929], Pp. xii, 340.
10. Burnham, William H.: The normal mind: An introduction to mental hygiene and the hygiene of school instruction. New York: Appleton, 1924. Pp. xvi, 702.
11. Clark, Taliaferro, Sydenstricker, Edgar, and Collins, Selwyn D.: Indices of nutrition: An application of certain standards of nutrition to 506 native white children without physical defects and with "good" or "excellent" nutrition, as judged from clinical evidence. U. S. Public Health Service, Public Health Report, 1923, Reprint No. 842, Pp. 35.
12. Clark, Taliaferro, Sydenstricker, Edgar, and Collins, Selwyn D.: Weight and height as an index of nutrition: Weight and height measurements of 9,973 children classified upon medical examination as "excellent," "good," "fair," or "poor" in nutrition as judged from clinical evidence. U. S. Public Health Service, Public Health Reports, 1923, 38, 39-58.
13. Davis, Clara M.: Self-selection of diet by newly-weaned infants. *Amer. J. Dis. Child.*, 1928, 36, 651-679.
14. Dublin, Louis I., and Gebhart, John C.: Do height and weight tables identify undernourished children? *Amer. J. Pub. Health*, 1923, 13, 920-927.
15. Dunshee, Marion E.: A study of the factors affecting the amount and kind of food eaten by nursery school children. *Child Develop.*, 1931, 2, 163-183.
16. Eliot, Abigail A.: Eating habits in relation to personality development

- of two- and three-year-old children: A study of sixty-nine children in two nursery schools. *Genet. Psychol. Monog.*, 1933, 13, 399-481.
17. Faegre, Marion L., and Anderson, John E.: *Child care and training*. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
 18. Fenton, Jessie Chase: *A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life*. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
 19. Finlay, T. Y.: An investigation upon the value of two methods of estimating nutrition in infancy: The Pirquet method and W/HI to height-age method. *Edinburgh Med. J.*, 1924, 31 (New Series), 317-328.
 20. Fisher, Dorothy Canfield, and Gruenberg, Sidonie Matsner [editors]: *Our children: A handbook for parents*. Prepared and sponsored by the Child Study Association of America. New York: Viking Press, 1932. Pp. ix, 348.
 21. Franzen, Raymond: *Physical measures of growth and nutrition*. (School Health Research Monog., No. 2.) New York. American Child Health Assoc., 1929. Pp. xii, 138.
 22. Gauger, Marguerite Elston. The modifiability of response to taste stimuli in the pre-school child. *Teach. Coll., Columbia Univ., Cont. to Educ.*, 1929, No. 348, Pp. 53.
 23. Gray, H.: Ideal tables of size and weight of private-school boys. II. *Amer. J. Dis. Child.*, 1921, 22, 272-283.
 24. Gray, H.: Sitting-height and stem-length in private school boys. *Amer. J. Dis. Child.*, 1922, 23, 406-418.
 25. Gray, H., and Edmands, G. H.: Indices of the state of nutrition in children. *Amer. J. Dis. Child.*, 1922, 23, 226-237.
 26. Gray, H., and Root, Howard F.: Weight prediction by the formulae of Bornhardt, of von Pirquet, and of Dreyer. *Boston Med. & Surg. J.*, 1921, 185, 28-32.
 27. Hill, Adeline Bruce, and Van Alstyne, Dorothy: *Learning levels of the children in the nursery school: With reference to the eating situation*. New York: Teach. Coll., Columbia Univ., 1930. Pp. v, 41.
 28. Imlay, Florence: *A study of the food consumption and food habits of young children and the extent to which they may be modified by the nursery-school lunch*. University of Chicago, Unpublished Master's thesis, 1925.
 29. Jensen, Kai: Differential reactions to taste and temperature stimuli in newborn infants. *Genet. Psychol. Monog.*, 1932, 12, 361-479.
 30. Johnston, Frances: *A study of the reaction to food of country children of preschool age and factors influencing it*. University of Chicago, Unpublished Master's thesis, 1926.
 31. Katz, Daniel, and Katz, Rosa: *Psychologische Untersuchungen über Hunger und Appetit*. *Arch. f. d. Ges. Psychol.*, 1928, 65, 269-320.
 32. Langdon, Grace: *Home guidance for young children: A parents' handbook*. New York: John Day [c. 1931], Pp. xvii, 405.

33. Maclay, Eleanor R.: A study of the prevalence and lack of appetite in 100 pre-school children. University of Chicago, Unpublished Master's thesis, 1924.
34. McCloy, C. H.: Weight standards for the individual. *Amer. Physical Educ. Rev.*, 1926, 31, 917-926.
35. Miyake, E.: Vergleichende Untersuchung zwischen Hunger und Vitamin-B-Mangel an ein und demselben Menschen. *Berichte über die ges. Physiol. und Experimentelle Pharmakol.*, 1927, 40, 381-382.
36. Moseley, Marion Renwick: Reactions to food of children of pre-school age with special consideration of management as a conditioning factor. University of Chicago, Unpublished Master's thesis, 1925.
37. Rand, Winifred, Sweeny, Mary E., and Vincent, E. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
38. Ripin, Rowena, and Hetzer, Hildegard: Frühestes Lernen des Säuglings in der Ernährungssituation. *Zsch. f. Psychol.*, 1930, 118, 82-127.
39. Roberts, Lydia: Nutrition and care of children in a mountain county of Kentucky. U. S. Department of Labor, Children's Bureau, 1922, Publication 110, Pp. 41.
40. Scholley, R.: An analysis of nutritional and management problems of 400 children in the pre-school clinic of the infant welfare society of Minneapolis. University of Chicago, Unpublished Master's thesis, 1925.
41. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
42. Thom, Douglas A.: Everyday problems of the everyday child. New York: Appleton, 1929. Pp. xiii, 349.
43. Thurston, Floræ: Preliminary study of factors affecting the time taken by nursery school children to eat their food. *Ped. Sem. & J. Genet. Psychol.*, 1929, 36, 303-318.
44. Tilson, Marie Agnes: Problems of preschool children: A basis for parental education. *Teach. Coll., Columbia Univ., Cont. to Educ.*, 1929, No. 356, Pp. ix, 90.
45. Vance, Thomas F.: Food selection of nursery school children. *Child Develop.*, 1932, 3, 169-175.
46. Wood, Louise: Food likes and dislikes of forty-eight children as studied in a nursery school for fifty-four weeks. [In] *The Pre-School Child: His Development and His Guidance: A Conference Held at Mills College, California, April 6, 7, and 8, 1928. Mills College Bull.*, 1928, Series 18, No. 6, Pp. 172. (p. 18-21)
47. Wood-Comstock, Belle: All about the baby: The beginnings of human life with early needs. Vol. 2. The Christian home series in five volumes. Mountain View, Calif.: Pacific Press Publishing Assoc. [c. 1930], Pp. 364.

BASIC DATA FOR GENERALIZATIONS RELATIVE TO SLEEP

Generalization	Contributors										Research Studies
	Arlett (2)	Blanton and Blanton (3)	Blatz and Bott (7)	Faegre and Anderson (14)	Fenton (15)	Fisher and Gruenberg (16)	Langdon (33)	Rand, Sweeney, and Vincent (42)	Strang (57)	Thom (64)	Wood-Comstock (73)
Importance of day sleep	x	x	x	x		x	x	x	x	x	x
Substitutions and compensations for nap	x	x	x	x		x				x	
Amount of night sleep	x	x	x	x					x	x	

Boynnton and Goodenough (8); Chant and Blatz (11); Flemming (17); Foster, Goodenough, and Anderson (18); Scott (50); Sherman (52); Shinn (53); Wagner (67)

Andress (1); Blast and Bloemendahl (4); Blast and Loevenhart (5); Blast, Schacht, and Vanderkamp (6); Burham (10); Flemming (17); Foster, Goodenough, and Anderson (18); Hayashi (21); Johnson (24); Kleitman (26, 27); Kleitman and Reed (28); Laird (30); Laird and Wheeler (31); Landis (32); Laslett (34); Leake, Grab, and Senn (35); Lee and Kleitman (36); Miles (40); Ravenhill (43); Reese (44); Robinson and Herrmann (47); Robinson and Richardson-Robinson (48); Shinn (53); Smith (54); Stanley and Tescher (55); Terman and Hocking (62); Terman, Baldwin, Bronson, and others (63); Tuttle (66); Wagner (67); Weiskotten (69); Weiskotten and Ferguson (70); Weygandt (71); White (72)

Generalization	Contributors										Research Studies
	Arlett (2)	Blanton and Blanton (3)	Blatz and Bott (7)	Faegre and Anderson (14)	Fenton (15)	Fisher and Gruenberg (16)	Langdon (33)	Rand, Sweeney, and Vincent (42)	Strang (57)	Thom (64)	Wood-Comstock (73)
Total amount of sleep; seasonal variation	x	x	x	x	x	x	x	x	x	x	x
Bedtime hour: Variation with age; importance of early hour		x	x	x	x	x	x	x	x	x	x
Length of time for falling asleep	x	x	x	x	x	x	x	x	x	x	x
Adaptation to noise	x	x	x	x	x	x	x	x	x	x	x
Habituation to minor detail		x	x	x	x	x	x	x	x	x	x
Child's sleeping posture; activity		x	x	x	x						
Desirability of individual bed	x	x	x	x	x	x	x	x	x	x	x
Individual sleeping rooms		x	x	x	x	x	x	x	x	x	x
Details of sleeping conditions	x	x	x	x	x	x	x	x	x	x	x
Ventilation, temperature, and humidity	x	x	x	x	x	x	x	x	x	x	x
Quality and depth of sleep		x	x	x		x					

Chant and Blatz (11); Foster, Goodenough, and Anderson (18); Hayaashi (21); Shinn (53)

Foster, Goodenough, and Anderson (18); White (72)

Foster, Goodenough, and Anderson (18); Scott (50); Sherman (52); Shinn (53); Staples (56); Wagner (67); White (72)

Boynton and Goodenough (8); Guttman (20); Johnson, Swan, and Weigand (22, 23); Karger (25); Kreidl and Herz (29); Marquis (38); Scott (50); Sherman (52); Szymanski (59, 60, 61)

Flemming (17); Terman and Hocking (62)

Boynton and Goodenough (8); Flemming (17); Scott (50); Shinn (53); Terman and Hocking (62)

Czerny (12); Endres and von Frey (13); Gerber (19); Karger (25); Kreidl and Herz (29); Michelson (39); Mönninghof (41); Richter (46); De Sanctis and Neyroz (49); Szymanski (59, 60, 61)

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REFERENCES ON SLEEP

1. Andress, J. Mace: An investigation of the sleep of normal school children. *J. Educ. Psychol.*, 1911, 2, 153-156.
2. Arlitt, Ada Hart: The child from one to twelve: Psychology for parents. Rev. ed. New York: McGraw-Hill, 1931. Pp. xxi, 228.
3. Blanton, Smiley, and Blanton, Margaret Gray: Child guidance. New York: Century [c. 1927], Pp. xviii, 301.
4. Blast, Theodore H., and Bloemendahl, Willard B.: Studies in experimental exhaustion due to lack of sleep. IV. Effects on the nerve cells in the medulla. *Amer. J. Physiol.*, 1927, 82, 140-146.
5. Blast, Theodore H., and Loevenhart, A. S.: Studies in exhaustion due to lack of sleep. I. Introduction and methods. *Amer. J. Physiol.*, 1927, 82, 121-126.
6. Blast, Theodore H., Schacht, Frederick, and Vanderkamp, Harry: Studies in experimental exhaustion due to lack of sleep. III. Effect on the nerve cells of the spinal cord. *Amer. J. Physiol.*, 1927, 82, 131-139.
7. Blatz, William E., and Bott, Helen: Parents and the pre-school child. New York: William Morrow [c 1929], Pp. xii, 340.
8. Boynton, Adelia M., and Goodenough, Florence L.: The posture of nursery school children during sleep. *Amer. J. Psychol.*, 1930, 42, 270-278.
9. Brush, Edward N.: Observations on the temporal judgment during sleep. *Amer. J. Psychol.*, 1930, 42, 408-411.
10. Burnham, Wm. H.: A contribution to the hygiene of teaching. *Ped. Sem.*, 1904, 11, 488-497.
11. Chant, Nellie, and Blatz, W. E.: A study of sleeping habits of children. *Genet. Psychol. Monog.*, 1928, 4, 13-43.
12. Czerny, Adalbert: Beobachtungen über den Schlaf im Kindesalter unter physiologischen Verhältnissen. *Jahrb. f. Kinderh.*, 1892, neue folge, 33, 1-28.
13. Endres, G., and von Frey, W.: Ueber Schlaftiefe und Schlafmenge. *Zsch. f. Biol.*, 1930, 90, 70-80.
14. Faegre, Marion L., and Anderson, John E.: Child care and training. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
15. Fenton, Jessie Chase: A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
16. Fisher, Dorothy Canfield, and Gruenberg, Sidonie Matsner [editors]: Our children: A handbook for parents. Prepared and sponsored by the Child Study Association of America. New York: Viking Press, 1932. Pp. ix, 348.
17. Flemming, Bernice M.: A study of the sleep of young children. *J. Amer. Assoc. Univ. Women*, 1925-1926, 9, No. 1, 25-27.
18. Foster, Josephine C., Goodenough, Florence L., and Anderson, John E.: The sleep of young children. *Ped. Sem. & J. Genet. Psychol.*, 1928, 35, 201-218.

19. Gerber, Wilhelm: Ueber den Schlaf des Menschen und einen in der Praxis verwendbaren Schlafkontroll-apparat. *Münchener Medizinische Wochenschrift*, 1922, 69, 1399-1400.
20. Guttman, E.: Aktogramme als klinische Schlafkontrolle. *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 309-324. Abstr. No. 2188, *Psychol. Abstr.*, 1928, 2, 492.
21. Hayashi, Y.: On the sleeping hours of school children of 6 to 20 years. *Jido Jatahi* [Child's Journal], 1925, 296. Abstr. No. 1826, *Psychol. Abstr.*, 1927, 1, 439.
22. Johnson, H. M., Swan, T. H., and Weigand, G. E.: Sleep. *Psychol. Bull.*, 1926, 23, 482-503.
23. Johnson, H. M., Swan, T. H., and Weigand, G. E.: In what positions do healthy people sleep? *J. Amer. Med. Assoc.*, 1930, 94, 2058-2062.
24. Johnson, N. C.: Habits of work and methods of study of high school pupils in some cities in Indiana. *School Rev.*, 1899, 7, 257-277.
25. Karger, Paul: Über den Schlaf des Kindes. *Abhandlungen aus der Kinderheilkunde und ihren grenz-gebieten. Beihefte zum Jahrb. f. Kinderh.*, 1925, Heft 5, 1-50.
26. Kleitman, Nathaniel: Studies on the physiology of sleep. I. The effects of prolonged sleeplessness on man. *Amer. J. Physiol.*, 1923, 66, 67-92.
27. Kleitman, Nathaniel: Studies on the physiology of sleep. III. The effect of muscular activity, rest and sleep on the urinary excretion of phosphorus. *Amer. J. Physiol.*, 1925, 74, 225-237.
28. Kleitman, N., and Reed, C. I.: Studies on physiology of sleep: The effect of sleep on respiration. *Amer. J. Physiol.*, 1926, 75, 600-608.
29. Kreidl, Alois, and Hierz, Franz: Der Schlaf des Menschen bei Fernbleiben von Gesichts- und Gehörseindrücken. [Über den Schlaf der Mindersinnigen.] *Pflügers Arch. f. d. g. Physiol.*, 1924, 203, 459-471.
30. Laird, Donald A.: A survey of the sleep habits of 509 men of distinction. *Amer. Med.*, 1931, 37 (n. s. 27), 271-275.
31. Laird, D. A., and Wheeler, W. H., (Jr.): What it costs to lose sleep. *Indus. Psychol.*, 1926, 1, 694-696. Abstr. No. 412, *Psychol. Abstr.*, 1927, 1, 95.
32. Landis, Carney: Changes in blood pressure during sleep as determined by the Erlanger method. *Amer. J. Physiol.*, 1925, 73, 551-555.
33. Langdon, Grace: Home guidance for young children: A parents' handbook. New York: John Day [c. 1931], Pp. xvii, 405.
34. Laslett, Herbert R.: An experiment on the effects of loss of sleep. *J. Exper. Psychol.*, 1924, 7, 45-58.
35. Leake, Chauncey, Grab, J. A., and Senn, M. J.: Studies in exhaustion due to lack of sleep. II. Symptomatology in rabbits. *Amer. J. Physiol.*, 1927, 82, 127-130.
36. Lee, Mary A. M., and Kleitman, Nathaniel: Studies on the physiology of sleep. II. Attempts to demonstrate functional changes in the nervous system during experimental insomnia. *Amer. J. Physiol.*, 1923-1924, 67, 141-152.
37. Marinesco, G., Sager, O., and Kreindler, A.: Experimentelle Unter-

- suchungen zum Problem des Schlafmechanismus. *Zsch. f. d. g. Neurol. und Psychiat.*, 1929, 119, 277-306.
38. Marquis, Dorothy Postle: A study of activity and postures in infants' sleep. *Ped. Sem. & J. Genet. Psychol.*, 1933, 42, 51-69.
 39. Michelson, Eduard: Untersuchungen über die Tiefe des Schlafes. Dorpat: Schnakenburg's Buchdruckerei, 1891. Pp. 54.
 40. Miles, W. R.: Duration of sleep and the insensible perspiration. *Proc. Soc. Exper. Biol. & Med.*, 1928-1929, 26, 577-580.
 41. Mönninghoff, O., and Piesbergen, F.: Messungen über die Tiefe des Schlafes. *Zsch. f. Biol.*, 1883, 19, 114-128.
 42. Rand, Winifred, Sweeny, Mary E., and Vincent, E. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
 43. Ravenhill, A.: Some results of an investigation into hours of sleep among children in the elementary schools of England. *Int. Arch. f. Schulhyg.*, 1908, 5, 9-25.
 44. Reese, Margaret: A study of the effect of daylight saving time upon the sleep of young children. *Child Develop.*, 1932, 3, 86-89.
 45. Renshaw, S., Miller, V. L., and Marquis, D. P.: Children's sleep: A series of studies on the influence of motion pictures; normal age, sex and seasonal variations in motility; experimental insomnia; the effects of coffee; and the visual flicker limens of children. New York: Macmillan, 1933. Pp xviii, 242. Abstr. No. 6036, *Psychol. Abstr.*, 1933, 7, 740.
 46. Richter, Curt P.: The significance of changes in the electrical resistance of the body during sleep. *Proc. Nat. Acad. Sci.*, 1926, 12, 214-222.
 47. Robinson, Edward S., and Herrmann, Samuel O.: Effects of loss of sleep. *J. Exper. Psychol.*, 1922, 5, 19-32.
 48. Robinson, Edward S., and Richardson-Robinson, F.: Effects of loss of sleep. (II.) *J. Exper. Psychol.*, 1922, 5, 93-100.
 49. De Sanctis, Sante, and Neyroz, U.: Experimental investigations concerning the depth of sleep. Trans. by Howard C. Warren. *Psychol. Rev.*, 1902, 9, 254-282.
 50. Scott, Ethel: A study of the sleeping habits of twenty-nine children of pre-school age. *Child Develop.*, 1931, 2, 326-328.
 51. Sell, Iva Irene: A study of the structural design of the clothing of pre-school children in relation to self care. University of Minnesota, Unpublished Master's thesis, 1927. Pp. 70.
 52. Sherman, Mandel: The afternoon sleep of young children: Some influencing factors. *Ped. Sem. & J. Genet. Psychol.*, 1930, 38, 114-126.
 53. Shinn, Alida Visscher: A study of sleep habits of two groups of pre-school children, one in Hawaii and one on the mainland. *Child Develop.*, 1932, 3, 159-166.
 54. Smith, May: A contribution to the study of fatigue. *Brit. J. Psychol.*, 1915-1917, 8, 327-350.
 55. Stanley, Leo L., and Tescher, Gordon L.: The effects of coffee on sleep. *Calif. & Western Med.*, 1931, 34, 359-361.

56. Staples, Ruth: Some factors influencing the afternoon sleep of young children. *Ped. Sem. & J. Genet. Psychol.*, 1932, 41, 222-228.
57. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
58. Sunderlin, Edith M.: A study of fastenings on the clothing of pre-school children. State University of Iowa, Unpublished Master's thesis, 1931, Pp. j, 147.
59. Szymanski, J. S.: Versuche über Aktivität und Ruhe bei Säuglingen. *Pflügers Arch. f. d. g. Physiol.*, 1918, 172, 424-429.
60. Szymanski, J. S.: Aktivität und Ruhe bei Tieren und Menschen. *Zsch. f. Allgemeine Physiol.*, 1920, 18, 105-162.
61. Szymanski, J. S.: Aktivität und Ruhe bei den Menschen. *Zsch. f. angew. Psychol.*, 1922, 20, 192-222.
62. Terman, Lewis M., and Hocking, Adeline: The sleep of school children, its distribution according to age, and its relation to physical and mental efficiency. *J. Educ. Psychol.*, 1913, 4, 138-147, 199-208; 269-282.
63. Terman, Lewis M., Baldwin, Bird T., Bronson, Edith, and others: Genetic studies of genius. Vol. I. Mental and physical traits of a thousand gifted children. Stanford University, Calif.: Stanford University Press, 1925. Pp. xv, 648.
64. Thom, Douglas A. Everyday problems of the everyday child. New York: Appleton, 1929. Pp. xiii, 349.
65. Thorner, H.: Die Körperstellung im Schlafen. *Nervenarzt*, 1931, 4, 197-206.
66. Tuttle, W. W.: The effect of sleep upon the patellar tendon reflex. *Amer. J. Physiol.*, 1924, 68, 345-348.
67. Wagner, Mary A.: Day and night sleep in a group of young orphanage children. *Ped. Sem. & J. Genet. Psychol.*, 1933, 42, 442-459.
68. Wagoner, Lovisa C., and Armstrong, Edna M.: The motor control of children as involved in the dressing process. *Ped. Sem. & J. Genet. Psychol.*, 1928, 35, 84-97.
69. Weiskotten, Thomas Fister: On the effects of the loss of sleep. *J. Exper. Psychol.*, 1925, 8, 363-380.
70. Weiskotten, T. F., and Ferguson, J. E.: A further study of the effects of loss of sleep. *J. Exper. Psychol.*, 1930, 13, 247-260.
71. Weygandt, Wilhelm. Experimentelle Beiträge zur Psychologie des Schlafes. *Zsch. f. Psychol.*, 1905, 39, 1-41.
72. White, Margaret Richie. Some factors affecting the night sleep of children. *Child Develop.*, 1931, 2, 234-235.
73. Wood-Comstock, Belle: All about the baby: The beginnings of human life with early needs. Vol. 2. The Christian home series in five volumes. Mountain View, Calif.: Pacific Press Publishing Assoc. [c. 1930], Pp. 364.
74. Wyatt, S., and Fraser, J. A.: Studies in repetitive work with special reference to rest pauses. Report No. 32. Industrial Fatigue Research Council. London: His Majesty's Stationer's Office, 1925. Pp. iv, 43.

	x	x	x	x	x	Ackerson and Highlander (12); Reymert (13)	Partridge (1); Partridge (13)
Influence of clothing upon training	x						
Child's attitude toward elimination	x	x	x				
Relation of intelligence to control	x						
Number of bowel movements a day		x					
Incidence of bowel and bladder irregularity		x					
Causes and treatment of temporary lapses	x	x	x				
Precautions in taking the child to the toilet during the night	x	x	x				
Causes of enuresis other than physical	x	x	x	x			Ackerson and Highlander (1); Esersky and Others (7); Mühl (11); Reymert (13); Schroeder (14)
Physical causes of enuresis	x		x				Ackerson and Highlander (1); Reymert (13); Schwartz (15)
Incidence of types of enuresis	x	x					Ackerson and Highlander (1); Partridge (12); Reymert (13); Schwartz (15)
Incidence of sex in enuresis							Esersky and Others (7); Reymert (13); Schwartz (15)
Treatment of enuresis	x	x	x	x			Amberg and Grob (2)
Overcontrol during sleeping periods as a problem		x					
Incidence and treatment of bowel irregularities		x	x				

REFERENCES ON ELIMINATION

1. Ackerson, Luton, and Highlander, Muriel: The relation of enuresis to intelligence, to conduct and personality problems, and to other factors. *Psychol. Clin.*, 1928-1929, 17, 119-127.
2. Amberg, Samuel, and Grob, Otto: The effect of atropine on the bladder of the child. *Amer. J. Dis. Child.*, 1931, 41, 507-512.
3. Arlitt, Ada Hart: The child from one to twelve: Psychology for parents. Rev. ed. New York: McGraw-Hill, 1931. Pp. xxi, 228.
4. Blanton, Smiley, and Blanton, Margaret Gray: *Child guidance*. New York: Century [c. 1927]. Pp. xviii, 301.
5. Blatz, William E., and Bott, Helen: Parents and the pre-school child. New York: William Morrow [c. 1929]. Pp. xii, 340.
6. Burnham, William H.: The normal mind: An introduction to mental hygiene and the hygiene of school instruction. New York: Appleton, 1924. Pp. xvi, 702.
7. Eversky, -----, Plotitscher, -----, and Furmanow, -----: Probleme der Klinik und der Genese der Enuresis nocturna bei Kindern. [Problems in the clinical aspects and genesis of nocturnal enuresis in children] *Zsch. f. Kinderforsch.*, 1931, 38, 133-255. Abstr. No. 4251, *Psychol. Abstr.*, 1931, 5, 465.
8. Faegre, Marion L., and Anderson, John E. *Child care and training*. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
9. Fenton, Jessie Chase: A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
10. Hull, Clark L., and Hull, Bertha Iutzi: Parallel learning curves of an infant in vocabulary and in voluntary control of the bladder. *Ped. Sem.*, 1919, 26, 272-283.
11. Mühl, Anita M.: Emotional maladjustment during pregnancy with possible relationship to enuresis in the child. *Psychoanal. Rev.*, 1927, 14, 326-328.
12. Partridge, Miriam N.: A study of nocturnal enuresis in boys. *J. Delinq.*, 1927, 11, 296-308.
13. Reymert, Martin L.: A longitudinal study of enuresis. Mooseheart, Ill.: Mooseheart Laboratory for Child Research. Abstr. No. 398, *Child Develop. Abstr.*, 1933, 7, 148.
14. Schroeder, Paul L.: Enuresis in adolescent boys. *Arch. Neurol. & Psychiat.*, 1927, 18, 1053-1056.
15. Schwartz, A. B.: A study of two hundred and twenty-six cases of enuresis. *Boston Med. & Surg. J.*, 1914, 171, 631-635.
16. Scoe, Hjalmar Fletcher: Bladder control in infancy and early childhood. *Univ. Iowa Stud., Stud. in Child Welfare*, 1933, 5, No. 4, Pp. 83.
17. Smith, Richard M.: *The baby's first two years*. Rev. ed. Boston, Mass.: Houghton Mifflin, 1930. Pp. x, 159.

18. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
19. Thom, Douglas A.: Everyday problems of the everyday child. New York: Appleton, 1929. Pp. xiii, 349.

[illegible]

REFERENCES ON PLAY

1. Arlitt, Ada Hart: The child from one to twelve: Psychology for parents. Rev. ed. New York: McGraw-Hill, 1931. Pp. xxi, 228.
2. Barker, Margaret: A technique for studying the social-material activities of young children. Teach. Coll., Columbia Univ., Child Develop. Monog., 1930, No. 3, Pp. 69.
3. Benjamin, Harold: Age and sex differences in the toy-preferences of young children. Ped. Sem. & J. Genet. Psychol., 1932, 41, 417-429.
4. Blackhurst, Dorothy Jean: The value of play apparatus for developing motor control in preschool children. State University of Iowa, Unpublished Master's thesis, 1927, Pp. 77.
5. Blanton, Smiley, and Blanton, Margaret Gray: Child guidance. New York: Century [c. 1927], Pp. xviii, 301.
6. Blatz, William E., and Bott, Helen: Parents and the pre-school child. New York: William Morrow [c. 1929], Pp. xii, 340.
7. Bott, Helen: Observation of play activities in a nursery school. [In] Bott, E. A., Blatz, W. E., Chant, Nellie, and Bott, Helen: Observation and Training of the Fundamental Habits in Young Children. Genet. Psychol. Monog., 1928, 4, No. 1, 1-161. (p. 44-88)
8. Boynton, P. L., and Ford, F. A.: The relationship between play and intelligence. J. Appl. Psychol., 1933, 17, 294-301. Abstr. No. 675, Psychol. Abstr., 1934, 8, 70
9. Bridges, K. M. Banham: Occupational interests of three-year-old children. Ped. Sem. & J. Genet. Psychol., 1927, 34, 415-423.
10. Bridges, K. M. Banham: The occupational interests and attention of four-year-old children. Ped. Sem. & J. Genet. Psychol., 1929, 36, 551-570.
11. Bühler, C.: The child and its activity with practical material. Brit. J. Educ. Psychol., 1933, 3, 27-41. Abstr. No. 4050, Psychol. Abstr., 1933, 7, 500.
12. Cornog, Mrs. Emma C.: Problems relating to child's play arising from special community situations. Iowa Child Welfare Research Station, Unpublished study, 1932.
13. Croswell, T. R.: Amusements of Worcester school children. Ped. Sem., 1898-1899, 6, 314-371.
14. Faegre, Marion L., and Anderson, John E.: Child care and training. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
15. Farwell, L.: Reactions of kindergarten, first-, and second-grade children to constructive play materials. Genet. Psychol. Monog., 1930, 8, 431-562.
16. Fenton, Jessie Chase: A practical psychology of babyhood: The mental development and mental hygiene of the first two years of life. Boston, Mass.: Houghton Mifflin, 1925. Pp. xvi, 348.
17. Fisher, Dorothy Canfield, and Gruenberg, Sidonie Matsner [editors]: Our children: A handbook for parents. Prepared and sponsored by

- the Child Study Association of America. New York: Viking Press, 1932. Pp. ix, 348.
18. Furfey, Paul Hanley: The measurement of developmental age. Catholic University of America, Educational Research Bull., 1927, 2, No. 10, Pp. 40.
 18. Furfey, Paul Hanly. The measurement of developmental age. Catholic 1927, 41, 109-111.
 20. Horn, Harriet Mabel: Spontaneous play of the pre-school child. University of Iowa, Unpublished Master's thesis, 1925, Pp. 51.
 21. Hulson, Eva Leah: An analysis of the free play of four year old children through consecutive studies of individuals. State University of Iowa, Unpublished Master's thesis, 1928. Pp. 87.
 22. Hurlock, E. B., and Burstein, M.: The imaginary playmate: A questionnaire study. Ped Sem. & J. Genet. Psychol., 1932, 41, 380-392. Abstr. No. 2571, Psychol. Abstr., 1933, 7, 317.
 23. Jack, Lois M.: An experimental study of ascendant behavior in pre-school children. [In] Researches in Child Behavior. Univ. Iowa Stud., Stud. in Child Welfare, 1934, 9, No. 1, Pp. 171. (p. 7-65)
 24. Jenny, W. A. Popularity and personality in the summer camp: A study of group acceptance of the individual and the concomitant behavior of boys 9 to 19. Univ. Pitt. Bull., 1933, 29, 133-140. Abstr. No. 3529, Psychol. Abstr., 1933, 7, 437.
 25. Langdon, Grace. Home guidance for young children: A parents' handbook. New York: John Day [c. 1931], Pp. xvii, 405.
 26. Lehman, Harvey C.: Community differences in play behavior. Part IV. Ped. Sem. & J. Genet. Psychol., 1926, 33, 477-490.
 27. Lehman, Harvey C.: III. A comparison of the play activities of town and country children. Ped. Sem. & J. Genet. Psychol., 1926, 33, 455-476.
 28. Lehman, Harvey C.: Growth stages in play behavior. Part II. Ped. Sem. & J. Genet. Psychol., 1926, 33, 273-288.
 29. Lehman, Harvey C.: The play activities of persons of different ages. Ped. Sem. & J. Genet. Psychol., 1926, 33, 250-272.
 30. Lehman, Harvey C.: A study of doll play in relation to the onset of pubescence. Ped. Sem. & J. Genet. Psychol., 1927, 34, 72-76.
 31. Lehman, Harvey C.: The child's attitude toward the dog versus the cat. Ped. Sem. & J. Genet. Psychol., 1928, 35, 62-72.
 32. Lehman, Harvey C., and Michie, Orbie C.: Extreme versatility versus paucity of play interest. Ped. Sem. & J. Genet. Psychol., 1927, 34, 290-298.
 33. Lehman, Harvey C., and Wilkerson, Doxey A.: The influence of chronological age versus mental age on play behavior. Ped. Sem. & J. Genet. Psychol., 1928, 35, 312-324.
 34. Lehman, Harvey C., and Witty, Paul A.: Playing school—A compensatory mechanism. Psychol. Rev., 1926, 33, 480-485.
 35. Lehman, Harvey C., and Witty, Paul A.: The compensatory function of the Sunday "funny" paper. J. Appl. Psychol., 1927, 11, 202-211.

36. Lehman, Harvey C., and Witty, Paul A.: Periodicity and growth. *J. Appl. Psychol.*, 1927, 11, 106-116.
37. Lehman, Harvey C., and Witty, Paul A.: Play activity and school progress. *J. Educ. Psychol.*, 1927, 18, 318-326.
38. Lehman, Harvey C., and Witty, Paul A.: Play interests as evidence of sex differences in aesthetic appreciation. *Amer. J. Psychol.*, 1928, 40, 449-457.
39. Lehman, Harvey C., and Witty, Paul A.: A study of play in relation to intelligence. *J. Appl. Psychol.*, 1928, 12, 369-397.
40. Lehman, Harvey C., and Witty, Paul A.: Sex differences: Interest in tasks requiring mechanical ability and motor skill. *J. Educ. Psychol.*, 1930, 21, 239-245.
41. Lehman, Harvey C., and Witty, Paul A.: One more study of permanence of interest. *J. Educ. Psychol.*, 1931, 22, 481-492.
42. McGhee, Zach: A study in the play life of some South Carolina children. *Ped. Sem.*, 1900, 7, 459-478.
43. Rand, Winifred, Sweeny, Mary E., and Vincent, F. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
44. Roberts, Mary Price: A study of children's play in the home environment. [In] *Researches in Parent Education II*. Univ. Iowa Stud., Stud. in Child Welfare, 1934, 8, Pp. 335. (p. 33-98)
45. Salusky, A. S.: Collective behavior of children at a preschool age. *J. Soc. Psychol.*, 1930, 1, 367-378.
46. Shacter, H. S.: A method for measuring the sustained attention of preschool children. *Ped. Sem. & J. Genet. Psychol.*, 1933, 42, 339-371. Abstr. No. 6041, *Psychol. Abstr.*, 1933, 7, 741.
47. Shacter, H. S.: Intelligence as a casual factor determining differences in sustained attention in pre-school children. *J. Appl. Psychol.*, 1933, 17, 478-488. Abstr. No. 728, *Psychol. Abstr.*, 1934, 8, 78.
48. Shallit, Rebecca: The dramatic play of ten nursery school children. *Child Develop.*, 1932, 3, 359-362. Abstr. No. 3553, *Psychol. Abstr.*, 1933, 7, 441-442.
49. Smith, M.: A study of the unsupervised behavior of a group of institutional children. Nashville, Tenn.: Marshall & Bruce, 1931. Pp. 40. Abstr. No. 473, *Psychol. Abstr.*, 1932, 6, 57.
50. Smith, Mapheus: A method of analyzing the interaction of children. *J. Juvenile Res.*, 1933, 17, 78-88.
51. Staples, Ruth, and Anderson, Angeline C.: A study of outdoor play, appetite and afternoon sleep of young children. *Child Develop.*, 1933, 4, 191-195. Abstr. No. 737, *Psychol. Abstr.*, 1934, 8, 79.
52. Straug, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
53. Terman, Lewis M.: Play interests, knowledge, and practice. [In] Terman, Lewis M. [editor]: *Genetic Studies of Genius: Vol. I. Mental and Physical Traits of a Thousand Gifted Children*. Stanford

- University, Calif.: Stanford University Press, 1925. Pp. xv, 648. (p. 385-439)
54. Thom, Douglas A.: *Everyday problems of the everyday child*. New York: Appleton, 1929. Pp. xiii, 349.
 55. Thomas, Coronal: A comparison of interests of delinquent and non-delinquent boys. *J. Juvenile Res.*, 1932, 16, 310-318.
 56. Thurstone, L. L.: The measurement of change in social attitude. *J. Soc. Psychol.*, 1931, 2, 230-235.
 57. Van Alstyne, Dorothy: *Play behavior and choice of play materials of pre-school children*. Chicago, Ill.: University of Chicago Press [c. 1932], Pp. xii, 104.
 58. Wagoner, Lovisa C.: The constructive ability of young children. *Univ. Iowa Stud.*, *Stud. in Child Welfare*, 1925, 3, No. 2, Pp. 56.
 59. Witty, Paul Andrew: A study of deviates in versatility and sociability of play interest. *Teach. Coll., Columbia Univ., Cont. to Educ.*, 1931, No. 470, Pp. ix, 57.
 60. Witty, Paul A., and Beaman, Florence N.: The play of mental deviates. *Ment Hygiene*, 1933, 17, 618-634.
 61. Witty, Paul A., and Lehman, Harvey C.: The play behavior of fifty gifted children. *J. Educ. Psychol.*, 1927, 18, 259-265.
 62. Witty, Paul A., and Lehman, Harvey C.: The collecting interests of town children and country children. *J. Educ. Psychol.*, 1933, 24, 170-184.
 63. Wood-Comstock, Belle: *All about the baby: The beginnings of human life with early needs*. Vol 2. *The Christian Home Series in five volumes*. Mountain View, Calif.: Pacific Press Publishing Assoc. [c. 1930], Pp. 364.

BASIC DATA FOR GENERALIZATIONS RELATIVE TO SEX EDUCATION

Generalization	Contributors													Research Studies
	Blanton and Blanton (1)	Blatz and Bott (2)	Dennett (6)	Faegre and Anderson (7)	Fisher and Groves (8)	Groves and Groves (10)	Gruenberg (11)	Gruenberg (12)	Langdon (15)	Rand, Sweeney, and Vincent (17)	Strang (18)	Thom (19)		
The child's curiosity about his body, about the body of others, and about sex	x	x	x	x	x	x	x	x	x		x	x		Busse (4); Canivet (5); Hattendorf (13); Palmer (16)
Importance of sex education; relation of early sex attitudes to optimum development	x	x	x	x	x	x	x	x	x		x	x		
Reasons for parents' failure to give children proper sex instruction	x	x	x	x	x	x		x		x		x		Hattendorf (13)
Responsibility of parents in the sex education of their children	x	x	x	x	x	x	x	x				x		Canivet (5)
The approach in the giving of sex education	x	x		x	x		x	x	x		x			Hattendorf (13)
Importance of adequate information; effects of misinformation	x	x	x	x	x		x	x	x			x		
Time of beginning sex education	x	x	x	x		x	x	x	x	x	x	x		Canivet (5); Palmer (16)
Desirability of developing a vocabulary for body parts and functions	x		x	x	x		x	x						Canivet (5); Hattendorf (13)
Influence of family attitudes upon the child's attitude		x	x	x	x	x	x	x		x	x	x		
Relation of sex education to the teaching of general hygiene			x	x	x		x						x	

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REFERENCES ON SEX EDUCATION

1. Blanton, Smiley, and Blanton, Margaret Gray: *Child guidance*. New York: Century [c. 1927], Pp. xviii, 301.
2. Blatz, William E., and Bott, Helen: *Parents and the pre-school child*. New York: William Morrow [c. 1929], Pp. xii, 340.
3. Boenheim, C.: Onanie und Nervensystem beim Kinde. [Masturbation and the nervous system of the child.] *Monatsch. f. Kinderh.*, 1931, 51, 359-369. Abstr. No. 4049, *Psychol. Abstr.*, 1933, 7, 499-500.
4. Busse, Hans: *Kinderfragen im Fragekasten*. *Zsch. f. angew. Psychol.*, 1929, 32, 398-453.
5. Canivet, N.: *Enquête sur l'initiation sexuelle*. [A study of sexual enlightenment.] *Arch. de psychol.*, 1932, 23, 239-278. Abstr. No. 308, *Psychol. Abstr.*, 1933, 7, 43.
6. Dennett, Mary Ware: *The sex education of children: A book for parents*. New York: Vanguard Press, 1931. Pp. vii, 195.
7. Faegre, Marion L., and Anderson, John E.: *Child care and training*. Rev. ed. Minneapolis, Minn.: University of Minnesota Press, 1929. Pp. vi, 274.
8. Fisher, Dorothy Canfield, and Gruenberg, Sidonie Matsner [editors]: *Our children: A handbook for parents*. Prepared and sponsored by the Child Study Association of America. New York: Viking Press, 1932. Pp. ix, 348.
9. Friedjung, J. K.: *Die Physiologie und Pathologie der kindlichen Sexualität*. [The physiology and pathology of sexuality in the child.] *Monatschr. f. Kinderh.*, 1931, 51, 343-358. Abstr. No. 4053, *Psychol. Abstr.*, 1933, 7, 500.
10. Groves, Ernest R., and Groves, Gladys Hoagland: *Wholesome parenthood*. Boston, Mass.: Houghton Mifflin, 1929. Pp. vi, 320.
11. Gruenberg, Benjamin C.: *Parents and sex education: I. For parents of children under school age*. New York: Amer. Social Hygiene Assoc. [c. 1923], Pp. vi, 100.
12. Gruenberg, Sidonie: *Your child today and tomorrow: Some practical counsel for parents*. 3rd ed. Philadelphia, Pa.: Lippincott, 1928. Pp. 255.
13. Hattendorf, Katharine Wood: *A home program for mothers in sex education*. [In] Hattendorf, Katharine Wood, Ojemann, Ralph H., Schaus, Hazel Spencer, and others: *Researches in Parent Education I*. Univ. Iowa Stud., Stud. in Child Welfare, 1932, 6, Pp. 288. (p. 9-92)
14. Landauer, K.: *Das Menstruationserlebnis der Knaben*. [Boys' idea about menstruation.] *Zsch. f. psychoanal. Päd.*, 1931, 5, 175-184. Abstr. No. 927, *Psychol. Abstr.*, 1933, 7, 129.
15. Langdon, Grace: *Home guidance for young children: A parents' handbook*. New York: John Day [c. 1931], Pp. xvii, 405.
16. Palmer, Gladys: *The rôle played in the production of mental disturbances by misinformation about masturbation*. University of Iowa, Unpublished Doctor's dissertation, 1932, Pp. b, 195.

17. Rand, Winifred, Sweeny, Mary E., and Vincent, E. Lee: Growth and development of the young child. Philadelphia, Pa.: Saunders, 1930. Pp. 394.
18. Strang, Ruth: An introduction to child study. New York: Macmillan, 1930. Pp. xiii, 550.
19. Thom, Douglas A.: Everyday problems of the everyday child. New York: Appleton, 1929. Pp. xiii, 349.

APPENDIX II

**TESTS FOR THE MEASUREMENT OF ATTITUDE
TOWARD SELF-RELIANCE**

FORM 1 OF TEST FOR MEASURING ATTITUDES TOWARD SELF-
RELIANCE FOR PARENTS OF PRESCHOOL CHILDREN

by

RALPH H. OJEMANN

Name _____

(If you prefer, you need not give your name)

Are you a husband or wife? _____

How many children have you? Girls _____ Boys _____

Ages of girls _____ Ages of boys _____

What has been your schooling? (Put a circle around the last year of school completed.)

Grades 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

Have you ever attended child study classes? _____

If so, where? _____ How long? _____

The following pages contain a list of items such as this.

I think that a child should be able to brush his teeth daily
without being told to do so by the age of _____

We want you to read an item, then think of children who are neither high nor low in intelligence, physical development, etc., but near the average. Then mark in the blank the age at which anyone of these "near-average" children should be able to perform this task.

For example, if you think that the average child should be able to brush his teeth daily without being told to do so by the age of five years, place the figure 5 in the blank, like this:

I think that a child should be able to brush his teeth daily
without being told to do so by the age of 5

In some cases you may wish to put down the age in months rather than years. In such cases write "mos." after the figure, like this: 2 mos.

We want your *own* opinion on each item.

1. I feel that a child should carry food with a spoon from a dish to the mouth *without spilling* (does not imply *never* spilling), throughout an entire meal, by the age of _____
3. I think a child should be able to cut his own meat (if reasonably tender) with a knife by the age of _____
5. I think a child is capable of answering the doorbell and calling the person desired by the age of _____
7. I think a child should be able to *help* set the table for a family meal (e. g., place silverware and dishes on the table after an adult has given them to him and has shown him where to place them) by the age of _____

9. I think a child has the ability to take a message over the telephone to relay correctly to another member of the family by the age of _____
11. I feel that a child should be taught to manage expenditure of an allowance which includes money for a few articles of clothing (e. g., hose, handkerchiefs) by the age of _____
13. I feel that a child is capable of undressing and going to bed alone after being told it is time to go to bed by the age of _____
15. I feel that a child should be allowed to ride a kiddie kar or other mobile toy around the home block (assuming there are no hidden driveways and but two alleys, which are not often used) without being accompanied by an adult at the age of _____
17. I think a child should be able to remove all his indoor clothing when it has been unfastened for him by the age of _____
19. I think a child should be able to unbutton one-half inch buttons when in *front position* by the age of _____
21. I think a child should be able to fasten medium sized hooks and eyes when in *front position* by the age of _____
23. I feel that a child should be able to take responsibility for urination (e. g., indicate his need) by the age of _____
25. I think a child should be able to hold and drink from a cup or glass (one-half full of liquid) *without spilling* (does not imply *never* spilling) by the age of _____
27. I think that a child should be able to endure ordinary small hurts (e. g., falling from a kiddie kar) without crying by the age of _____
29. I believe a child should be permitted to play in his own unfenced yard without the immediate presence of an adult by the age of _____
31. I think a child should be able to share voluntarily toys with any child with whom he is playing by the age of _____
33. I believe a child should be able to *help* with the weekly cleaning (e. g., run the vacuum cleaner, empty wastebaskets) by the age of _____
35. I think a child should be able to dry the dishes (not scald them) after a family meal by the age of _____
37. I think a child should be permitted to run errands about the neighborhood (e. g., take a neighbor some flowers or borrow something for his mother) by the age of _____
39. I think a child should be able to bathe himself with adult supervision by the age of _____
41. I think a child should be able to remove all his own indoor clothing, including unfastening, *without help*, by the age of _____

43. I think a child should be able to dress himself when his clothes are handed to him in the proper position and are fastened for him by the age of _____
45. I think a child should be able to fasten medium sized snaps when in *front position* by the age of _____
47. I feel that a child should be able to make his own bed daily (excepting when sheets are changed) *without help* by the age of _____
49. I feel that a child should be able to assist in preparing food for the family meal (e. g., wash vegetables) by the age of _____
51. I think that a child should go to school alone a distance of two miles or less, when it is necessary to cross several heavy traffic streets, by the age of _____

FORM 2 OF TEST FOR MEASURING ATTITUDES TOWARD SELF-
RELIANCE FOR PARENTS OF PRESCHOOL CHILDREN

by

RALPH H. OJEMANN

Name _____

(If you prefer, you need not give your name.)

Are you a husband or wife? _____

How many children have you? Girls _____ Boys _____

Ages of girls _____ Ages of boys _____

What has been your schooling? (Put a circle around the last year of school completed.)

Grades 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

Have you ever attended child study classes? _____

If so, where? _____ How long? _____

The following pages contain a list of items such as this:

I think that a child should be able to brush his teeth daily
without being told to do so by the age of _____

We want you to read an item, then think of children who are neither high nor low in intelligence, physical development, etc., but near the average. Then mark in the blank the age at which any one of these "near-average" children should be able to perform this task.

For example, if you think that the average child should be able to brush his teeth daily without being told to do so by the age of five years, place the figure 5 in the blank, like this:

I think that a child should be able to brush his teeth daily
without being told to do so by the age of 5

In some cases you may wish to put down the age in months rather than years. In such cases write "mos." after the figure, like this: 2 mos.

We want your *own* opinion on each item.

2. I think that a child should be able to use a fork to carry solid food from a dish to the mouth *without spilling* (does not imply *never* spilling), throughout an entire meal, by the age of _____
4. I believe that a child can be taught to make a good selection of his own meal when dining in a hotel or restaurant by the age of _____
6. I think a child should be able to *help* make his own bed (e. g., the child on one side of the bed smoothing covers and an adult on the other) by the age of _____
8. I believe that a child can run errands about the home (e. g., fetch a book for a parent) by the age of _____

10. I feel that a child should be able to *help* with daily cleaning about the home (e. g., pick up newspapers, straighten small rugs, empty ash trays) by the age of _____
12. I believe that a child should be put in his bed while awake and should go to sleep of his own accord by the age of _____
14. I think a child should be able to take turns with another child at using some toy or piece of play apparatus, without suggestion from an adult, by the age of _____
16. I think that a child should be able to go to school alone, a distance of one mile or less, when it is not necessary to cross heavy traffic streets, by the age of _____
18. I think a child should be able to dress himself entirely *without help* by the age of _____
20. I think a child can unfasten snaps regardless of the position or size by the age of _____
22. I feel that a child should be able to take responsibility for his bowel movements (e. g., indicate his need) by the age of _____
24. I believe that a child should be able to wash and dry his hands and face, insuring cleanliness, *without* adult supervision by the age of _____
26. I feel that a child should be able to choose his own play activities from material available about the home by the age of _____
28. I think a child should *help* put his toys away at the end of a play period after suggestion from an adult by the age of _____
30. I think a child should be able to settle minor difficulties (e. g., a struggle over a toy) with a child his own age by the age of _____
32. I think a child is capable of answering the telephone and calling the person desired by the age of _____
34. I think a child should be able to set the table for a family meal with dishes and silverware *without help* from an adult by the age of _____
36. I feel that a child should be able to hang up his own wraps, providing hooks are within his reach and near at hand, *without suggestion* from an adult, by the age of _____
38. I think that a child should be able to wash and dry his hands and face, reasonably clean, *with* adult suggestion and supervision by the age of _____
40. I feel that a child should be able to brush his teeth *without* adult supervision by the age of _____
42. I think a child should be able to put his own shoes on the correct foot and *lace* and *tie* them *without help* by the age of _____
44. I think a child should be able to button one-half inch buttons when in *front position* by the age of _____

46. I feel that a child should be allowed to make a choice of clothing to be worn from a few selected by an adult by the age of _____
48. I believe that a child should be able to ~~help~~ set the table for a family meal (e. g., assist another person) by the age of _____
50. I believe a child should be able to choose his own books to read from a library list of books suitable for his age by the age of _____
52. I believe that a child should be able to get to school on time *without being reminded* by the age of _____

TEST FOR MEASURING ATTITUDES TOWARD SELF-RELIANCE FOR PARENTS OF ELEMENTARY SCHOOL CHILDREN

by

RALPH H. OJEMANN

Name _____

(If you prefer, you need not give your name.)

Are you a husband or wife? _____

How many children have you? Girls _____ Boys _____

Ages of girls _____ Ages of boys _____

What has been your schooling? (Put a circle around the last year of school completed.)

Grades 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

Have you ever attended child study classes? _____

If so, where? _____ How long? _____

The following pages contain a list of items such as this:

I think that a child should be able to brush his teeth daily
without being told to do so by the age of _____

We want you to read an item, then think of children who are neither high nor low in intelligence, physical development, etc., but just average. Then mark in the blank the age at which any one of these average children should be able to perform this task.

For example, if you think that the average child should be able to brush his teeth daily without being told to do so by the age of five years, place the figure 5 in the blank, like this:

I think that a child should be able to brush his teeth daily
without being told to do so by the age of 5

In some cases you may wish to put down the age in months rather than years. In such cases write "mos." after the figure, like this: 2 mos.

We want your *own* opinion on each item.

1. I think that a child should be able to use a fork to carry solid food from a dish to the mouth *without spilling* (does not imply never spilling) throughout an entire meal by the age of _____
2. I think a child should be able to cut his own meat (if reasonably tender) with a knife by the age of _____
3. I believe that a child can be taught to make a good selection of his own meal when dining in a hotel or restaurant by the age of _____
4. I think a child is capable of answering the doorbell and calling the person desired by the age of _____
5. I think a child should be able to *help* make his own bed (e. g., the child on one side of the bed smoothing covers and the adult on the other) by the age of _____

6. I think a child has the ability to take a message over the telephone to relay correctly to another member of the family by the age of _____
7. I feel that a child should be able to help with daily cleaning about the home (e g., pick up newspapers, straighten small rugs, empty ash trays) by the age of _____
8. I feel that a child has the ability to prepare a simple family dinner without assistance after it has been planned by the mother by the age of _____
9. I feel that a child is competent to play about the yard or house alone in the daytime when the parents are away for a period of two or three hours (assuming that there are neighbors within a block who can be called upon, if needed) by the age of _____
10. (Disregard legal age when marking this item)
I feel that a child has the ability to drive the family car when adults are in the car by the age of _____
11. I feel that a child should be taught to manage expenditure of an allowance which includes money for a few articles of clothing (e. g., hose, handkerchiefs) by the age of _____
12. I think that a child can be left alone, in charge of the household, with younger members of the family (not more than three children and none younger than three years and assuming that the father is home at night) by the age of _____
13. I believe that a child should be taught to buy his own clothing *without help* from an adult by the age of _____
14. I think that a child should be taught how to obtain his own answers to his questions such as "How is silk made?" or "Where does rubber come from?" by the age of _____
15. I feel that a child is capable of undressing and going to bed alone after being told it is time to go to bed by the age of _____
16. I think a child should be able to take turns with another child at using some toy or piece of play apparatus, without suggestion from an adult, by the age of _____
17. I feel that a child should be allowed to ride a kiddie kar or other mobile toy around the home block (assuming there are no hidden driveways and but two alleys which are not often used) by the age of _____
18. I think that a child should go to school alone, a distance of one mile or less, when it is not necessary to cross heavy traffic streets by the age of _____
19. I think a child should be able to dress himself entirely *without help* by the age of _____

20. I think a child should be able to fasten medium sized hooks and eyes when in *front position* by the age of _____
21. I think a child is capable of taking entire care of his hair (i. e., wash, comb, decide how it is to be worn, when it is to be cut, etc.) by the age of _____
22. I think a child should be able to share voluntarily toys with any child with whom he is playing by the age of _____
23. I think a child is capable of answering the telephone and calling the person desired by the age of _____
24. I believe a child should be able to *help* with the weekly cleaning (e. g., run the vacuum cleaner, empty wastebaskets) by the age of _____
25. I think a child should be able to dry the dishes (not scald them) after a family meal by the age of _____
26. I think a child should be able to bathe himself with adult supervision by the age of _____
27. I think a child should be able to put his own shoes on the correct foot and *lace* and *tie* them *without help* by the age of _____
28. I think a child should be able to fasten medium sized snaps when in *front position* by the age of _____
29. I feel that a child should be allowed to make a choice of clothing to be worn from a few selected by an adult by the age of _____
30. I feel that a child should be able to make his own bed daily (excepting when sheets are changed) *without help* by the age of _____
31. I feel that a child should be able to plan and prepare a simple family dinner (e. g., meat, potatoes, vegetable, and dessert) by the age of _____
32. I believe a child should be able to choose his own books to read from a library list of books suitable to his age by the age of _____
33. I think that a child should go to school alone a distance of two miles or less when it is necessary to cross several heavy traffic streets by the age of _____
34. I believe that a child should be able to get to school on time *without being reminded* by the age of _____
35. I think that a child should be able to choose his own reading matter, including books, magazines, and newspapers, by the age of _____
36. I think that a child should be allowed to leave the parental home for a period of time (e. g., to a six weeks camp) by the age of _____
37. I think that a child should be able to make a desirable choice from his wardrobe of clothing to be worn, without suggestions from an adult, by the age of _____

TEST FOR MEASURING ATTITUDES TOWARD SELF-RELIANCE FOR PARENTS OF HIGH SCHOOL STUDENTS

by

RALPH H. OFFMANN

Name _____

(If you prefer, you need not give your name)

Are you a husband or wife? _____

How many children have you? Girls _____ Boys _____

Ages of girls _____ Ages of boys _____

What has been your schooling? (Put a circle around the last year of school completed.)

Grades 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

Have you ever attended child study classes? _____

If so, where? _____ How long? _____

The following pages contain a list of items such as this:

I think that a child should be able to brush his teeth daily
without being told to do so by the age of _____

We want you to read an item, then think of children who are neither high nor low in intelligence, physical development, etc., but just average. Then mark in the blank the age at which any one of these average children should be able to perform this task.

For example, if you think that the average child should be able to brush his teeth daily without being told to do so by the age of five years, place the figure 5 in the blank, like this:

I think that a child should be able to brush his teeth daily
without being told to do so by the age of 5

In some cases you may wish to put down the age in months rather than years. In such cases write "mos" after the figure, like this: 2 mos

We want your *own* opinion on each item.

1. I believe that a child can be taught to make a good selection of his own meal when dining in a hotel or restaurant by the age of _____
2. I believe that a child should be able to wash, scald, and dry the dishes after a family meal by the age of _____
3. I feel that a child should be able to prepare a simple family dinner without assistance after it has been planned by the mother by the age of _____
4. (Disregard legal age when marking this item.)
I feel that a child should be able to drive the family car when adults are in the car by the age of _____
5. I believe that a child should be able to help care for the furnace or heating stove (e. g., carry ashes out-of-doors, _____

- put a shovel of coal on when asked to by parent) by the age of _____
6. I think that a child should be able to take responsibility for keeping at least one room clean throughout the week (assuming he has help in one regular weekly cleaning) by the age of _____
 7. I think that a child can be left in charge of the household with younger members of the family (not more than three children and none younger than three years and assuming that the father is home at night) by the age of _____
 8. I believe that a child should be taught to buy his own clothing *without help* from an adult by the age of _____
 9. I think that a child should be taught how to obtain his own answers to his questions such as "How is silk made?" or "Where does rubber come from?" by the age of _____
 10. (In marking this item disregard legal age.)
I feel that a child who lives in a city of 50,000 population should share in the use of the family car for his own enjoyment and the entertainment of his friends (this includes day or night trips to cities not larger than 50,000 and not over fifty miles distant from the home town) by the age of _____
 11. I believe that a child should be able to take the entire responsibility for his school "home work" (i. e., complete it without parental reminder or supervision) by the age of _____
 12. I think a child is capable of taking entire care of his hair (i. e., wash, comb, decide how it is to be worn, when it is to be cut, etc.) by the age of _____
 13. I feel that a child should be able to make his own bed daily (excepting when sheets are changed) *without help* by the age of _____
 14. I feel that a child should be able to plan and prepare a simple family dinner (e. g., meat, potatoes, vegetable, and dessert) by the age of _____
 15. I think that a child should be included in some family discussions (e. g., on expenditures of money), his opinions being considered along with the opinions of older members of the family, by the age of _____
 16. I think a child should be able to choose the movies he wishes to attend by the age of _____
 17. I think a child should be able to partake in extra-curricular activities, being guided by his parents in his choice of activities (e. g., orchestra, school chorus, football, basketball), by the age of _____
 18. I think that a child should be able to choose his own reading matter, including books, magazines, and newspapers, by the age of _____

19. I think that a child should be allowed to leave the parental home for a period of time (e. g., to a six weeks camp) by the age of _____
20. I think that a child should be able to make a desirable choice from his wardrobe of clothing to be worn, without suggestions from an adult, by the age of _____
21. I think that a child should be able to plan and give a simple afternoon party for his immediate friends by the age of _____
22. I think that a child should be able to buy suitable Christmas gifts for the immediate family after he has been restricted as to the amount of money to be spent for each gift by the age of _____
23. I think that a child should be able to prepare and serve lunch to the younger members of the family when the parents are away for lunch by the age of _____
24. I think that a child should be able to take the responsibility for paying one monthly bill for the family (e. g., obtain the money from his parents, pay the bill on the date it is due or before, get receipt for the payment—this refers to bills such as light, gas, or water bills) by the age of _____
25. I think that a child should be able to make his own arrangements about going to an evening party, when it means taking a street car or bus a distance of three miles or less, by the age of _____
(This refers to a party which begins at seven o'clock and ends at ten o'clock and includes making decisions as to what time to go, whom to go with, how to meet companions, etc.)

APPENDIX III

**DIRECTIONS TO JUDGES AND TEST ITEMS FOR
INFORMATION AND ATTITUDES REGARDING
CHILD DEVELOPMENT POSSESSED BY
PARENTS OF ELEMENTARY
SCHOOL CHILDREN**

DIRECTIONS FOR CLASSIFYING PROCEDURES

The following are the procedures and directions given to the judges to use in classifying the items dealing with the treatment of inferiority, untruthfulness, disregard of property rights, and the development of emotional control:

Procedures for treating situations representing feelings of inferiority in children between the ages of six and twelve are given below. They are divided into three groups:

1. Applications of negative procedures include acts which fail to give the child constructive help and those which permit the child to blame others, to show indignation at just criticism, and to regress from unpleasant situations by daydreaming, etc. Mark examples of these methods as A.

2. Mark as B the application of procedures which introduce a substitution or a compensation for the desired goal.

3. In the applications of constructive procedures which (1) remove the difficulty, (2) provide an opportunity for more self-expression and development of self-confidence, and (3) develop a sense of humor, mark examples according to their respective numbers.

The following directions to judges accompanied the incidents and suggested methods of treating untruthfulness in children aged six to twelve:

Mark as A acts which you consider as applications of negative methods of treating situations in which children are untruthful. These include appealing to the child's emotions, whipping, or bribing

Mark the application of constructive principles according to their respective numbers:

1. Treat the cause of the lie rather than the lie, such as developing fearlessness when fear has led the child to lie

2. Provide the child with proper parental examples in attitudes and actions.

3. Increase the child's experience and give training in observation, in expressing ideas, and in the exercise of the imagination.

4. Give the child an understandable and adequate explanation of why his statement is not true.

With the situations and possible methods of treating disregard of others' property rights by children aged six to twelve, judges were given the following directions:

The methods treating children's disregard of others' property rights listed under the succeeding incidents are divided into two groups:

1. Application of negative procedures: whipping the child, humiliating him, or lying to protect him from the consequences of his misdeeds. Mark the acts illustrating these principles as A.

2. Application of constructive procedures:

- (1) Determining the cause of the act
- (2) Giving the child more concrete experience in property ownership, more responsibilities, or further information concerning property values and rights
- (3) Illustrating by parental action and attitudes the proper regard for the property of others
- (4) Giving an explanation understandable to the child of why his act meets with disapproval
- (5) Eliminating the cause of the act

With the situations describing a lack of emotional control in children the judges were given these directions:

Situation and procedure of developing emotional control in children are given on the succeeding pages. The procedures of treatment are divided into two groups:

1. Application of negative procedures: whipping the child, the use of extraneous rewards, or using fear to control their behavior. Mark acts which are examples of negative principles as A.

2. Application of constructive procedures:

- (1) Find the cause of the undesirable behavior.
- (2) Apply remedial measure to the cause of the undesirable behavior.
- (3) Talk to the child about self-control.
- (4) Substitute desirable action for the undesirable.
- (5) Provide good examples of emotional control.
- (6) Use logical rewards. Do not attach satisfaction to undesirable behavior, and use rewards only when they occur in logical sequence.

TESTS

The final forms of the test items used in this investigation are given in this section. They are grouped according to the seven fields of child development: emotional development, mental development, physical growth, sex education, social development, use of money, and vocational guidance. Directions for marking accompany each section of the tests. "A" opposite each test item indicates the approved response as determined by the consensus of the judges' marks.

EMOTIONAL DEVELOPMENT

Feelings of Inferiority

The following are problems regarding the feeling of inferiority in children (six to twelve) and suggested methods of treatment. Factors not mentioned may be regarded as normal. No one method may solve the problem but some have greater possibilities than others; some good, some fair, and others poor.

Nine-year-old G is the only girl with four brothers. By their taunts and actions they have made her feel that girls are inferior to boys. They succeed in getting her to do all the things that they dislike to do, and she spends many unhappy hours wishing that she were a boy.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
1. Demand greater chivalry from the boys toward their sister	_____	_____	A
2. Show her methods of gaining superiority over her brothers	A	_____	_____
3. Give G the same privileges as her brothers	A	_____	_____
4. Give G more books to read so that she will lose interest in her brothers' affairs	_____	_____	A
5. Let her continue to feel inferior to her brothers	_____	_____	A

Six-year-old L was much younger than her sisters. Formerly, she tried to do everything that they did, but the family was not very sympathetic with her efforts and often laughed at her. Lately, when asked to do the simplest task, she says that she cannot. If the family insists, she bursts into tears.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
6. Let the child play and do not ask her to help with the work	_____	_____	A
7. Give the child a greater sense of security by asking her opinion of different matters	A	_____	_____
8. Be generous in praise of L's good points	A	_____	_____
9. Show L ways that she can excel her sisters	A	_____	_____
10. Divide the work for the family in a family council and see that L gets her share of work interesting to her	A	_____	_____

Ten-year-old Helen came home in tears. Grace was having a party and had asked every girl in the room but Helen. Grace told a girl that she didn't ask Helen because she was too homely.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
11. Give Helen a party and ask everyone but Grace	_____	_____	A
12. Permit Helen to give a party for the children at the Orphan's Home	_____	_____	A

	Good	Fair	Poor
13. Explain to Helen that it is Grace's way of showing that she is displeased because Helen is brighter than she is			A
14. Tell Helen to find something to do and forget parties			A
15. Tell Helen that she will be pretty when she grows up			A
16. Tell Helen stories about ugly little girls who by working hard became great women			A

Teaching Emotional Control

The following incidents are illustrations of immaturity in emotional control in children six to twelve years and methods suggested for treating the problem. Factors not mentioned may be considered as normal or average. More than one method might be used in actual treatment, but some of the methods suggest greater possibilities than others. Which would you consider good, which poor, and which fair methods for handling these problems?

Ten-year-old Betty cries all the time. She cries when she gets up in the morning, she cries if she has orange juice for breakfast instead of tomato juice or vice versa. She cries if the family ignores her, and she cries if the teacher calls on her to recite. In fact, anything may cause Betty to cry.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
1. Give Betty a thorough physical examination to see if she is below par	A		
2. Make fun of her for being a cry baby			A
3. Ignore her and let her cry it out			A
4. Tell her that you will give her a nickel every day she doesn't cry			A
5. Talk about what a nuisance she is in her presence			A
6. Tell her that you will send her away from home if she doesn't stop crying			A

Seven-year-old Silas is very stubborn. His day is a continual refusal to do anything that he is asked to do. "I won't" is his ready answer to all requests, whether it is to get up in the morning, or to go to the grocery store, or to drink his milk.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
7. Confine your requests to the things that Silas wishes to do	_____	_____	<u>A</u>
8. Force Silas to obey your requests	_____	_____	<u>A</u>
9. Give Silas plenty of opportunity to express himself. Let him choose between two acts wherever feasible	<u>A</u>	_____	_____
10. Develop the child's sense of humor so that a change in tension may be made easily	<u>A</u>	_____	_____
11. Scold Silas for his unwillingness to help	_____	_____	<u>A</u>
12. Establish consistent routine, so that the home may be as free from tension as possible	<u>A</u>	_____	_____

Six-year-old Judy is afraid of the dark. She will cry if the light is turned off in her bedroom before she goes to sleep, and she will not go into a dark room.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
13. Let her cry in the dark until she gets used to it	_____	_____	<u>A</u>
14. Treat her fear lightly as unimportant	_____	_____	<u>A</u>
15. Talk to her about why she is afraid	<u>A</u>	_____	_____
16. Force her to go into dark rooms to get accustomed to the dark	_____	_____	<u>A</u>
17. Scold and shame her for being so silly	_____	_____	<u>A</u>
18. Let her take a flash light to bed with her	_____	<u>A</u>	_____

Billy, who is eight years old, often becomes angry. He goes into a rage and throws things. Once he threw a knife and narrowly missed hitting his baby brother. Billy has had temper tantrums from babyhood.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
19. Spank Billy	_____	_____	<u>A</u>
20. Give Billy a thorough physical examination to see if he is below par	<u>A</u>	_____	_____
21. Provide plenty of suitable outlets for Billy's energy with as little frustration or interference as possible	<u>A</u>	_____	_____
22. Discuss causes of undesirable behavior with Billy and give him a reasonable explanation of why he should perform the desired act	_____	<u>A</u>	_____

	Good	Fair	Poor
23. See that others in his environment display emotional control	<u>A</u>	<u> </u>	<u> </u>
24. Do not let Billy get what he wants by losing his temper	<u>A</u>	<u> </u>	<u> </u>

Nine-year-old Katy sulks and pouts. Sometimes she will go all afternoon without speaking to anyone if she doesn't get her own way.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
25. Avoid crossing Katy	<u> </u>	<u> </u>	<u>A</u>
26. Offer Katy a treat if she will go a week without sulking	<u> </u>	<u> </u>	<u>A</u>
27. Try sulking on Katy. Don't speak to her for, an afternoon, when she doesn't do what you want her to do	<u> </u>	<u> </u>	<u>A</u>
28. Give her more companionship with other children, as she will probably accept discipline from them with a good grace	<u>A</u>	<u> </u>	<u> </u>
29. See that she receives approval for her good conduct	<u>A</u>	<u> </u>	<u> </u>

Teaching Caution Versus Fear

Please check in the appropriate column the items which you feel that your child (between the ages of six and twelve years) should have:

	Fear	Caution	No Fear
1. The dark	<u> </u>	<u> </u>	<u>A</u>
2. Crossing the street	<u> </u>	<u>A</u>	<u> </u>
3. Going to bed alone	<u> </u>	<u> </u>	<u>A</u>
4. Policeman	<u> </u>	<u> </u>	<u>A</u>
5. Failure in school	<u> </u>	<u> </u>	<u>A</u>
6. Matches	<u> </u>	<u>A</u>	<u> </u>
7. Fire	<u> </u>	<u>A</u>	<u> </u>
8. Ghosts	<u> </u>	<u> </u>	<u>A</u>
9. Robbers	<u> </u>	<u> </u>	<u>A</u>
10. God	<u> </u>	<u> </u>	<u>A</u>
11. Being kidnapped	<u> </u>	<u> </u>	<u>A</u>
12. Strangers	<u> </u>	<u>A</u>	<u> </u>
13. Strange dogs	<u> </u>	<u>A</u>	<u> </u>
14. Poison	<u> </u>	<u>A</u>	<u> </u>
15. Death	<u> </u>	<u> </u>	<u>A</u>
16. Drowning	<u> </u>	<u>A</u>	<u> </u>
17. Thunder	<u> </u>	<u> </u>	<u>A</u>
18. Snakes	<u> </u>	<u>A</u>	<u> </u>
19. Tame black cats	<u> </u>	<u> </u>	<u>A</u>
20. Climbing trees	<u> </u>	<u>A</u>	<u> </u>

Use of Fear as a Means of Controlling the Behavior of Children

The following statements were given to sixty judges regarding the desirability of parents using fear to control the behavior of children.

1. I feel that scaring a child now and then by a promise of a whipping doesn't hurt the child in any way.
2. I feel that to tell my child that the policeman or the boogey man will get him if he doesn't mind is one of the best methods for controlling my child.
3. I feel that children should be frightened away from things which will do them bodily injury.
5. I believe that fear is the most desirable method to use in controlling the behavior of children.
6. I believe that parents should raise their children to be afraid of breaking the law.
7. I feel that children should be taught by parents to be afraid of overstepping social conventions.
8. I believe that fear as a means of controlling children has an equal chance for aiding and for harming the child's normal development.
9. Since fear is so powerful as a means of control it is the best method to use with children.
10. I feel that scaring children to control their behavior always makes cowards of them.
11. I believe that fear is a good, easy method for controlling children.
12. I feel that the use of fear as a means of controlling children always inhibits their ability to think clearly.
13. I feel that the use of fear to control the child invariably has unlimited possibilities for injuring the normal development of the child.
14. I believe that the use of fear is desirable in incidents where immediate response to a situation is important.
15. I believe that fear is the only effective means that you can use to control children.
16. I feel that fear is a vicious method to use in controlling the behavior of children.
17. I believe in using fear to control children as it operates all through life in some form or other.
18. I believe that fear of social consequences is desirable in controlling children while fear of physical consequences is undesirable.
19. I feel that it is impossible to control children without the use of fear.
20. I believe that children should be raised in the fear of God.
21. I believe that using fear to control children will prevent their developing the ability to meet emergencies.
22. An excessive use of fear to control the behavior of a child might be damaging to the child's personality.
23. I feel that scaring children to control their behavior sometimes makes cowards of them.

24. I believe that fear should be used only in extreme cases to control the behavior of a child.

25. I believe that fear should be used only after other methods of controlling the child have failed.

26. I feel that an excessive use of fear to control a child often destroys potential possibilities which the child may have for leadership.

27. I feel that the use of fear as a means of control is sometimes injurious to the child's personality.

28. I feel that it is a poor practice to tell a child too often that if he doesn't do "thus and so" he will become ill.

29. I feel that it is undesirable for parents to frighten children by telling them they won't be loved if they fail to comply with the parent's wishes.

30. I believe that a judicious use of fear to control children is not objectionable.

31. I believe that the use of fear in any form is an objectionable method for controlling the behavior of children.

32. I believe that an occasional use of fear to control children is not objectionable.

33. I believe that fear as a means of controlling children is highly objectionable.

MENTAL DEVELOPMENT

The mental growth of children six to twelve years of age may be stimulated by: (Check the items to which you agree)

- | | |
|---------------|--|
| <u> A </u> | 1. Developmental play, including such games as checkers, word completion, etc. |
| <u> A </u> | 2. Increase in language ability |
| <u> A </u> | 3. Reading books and stories |
| <u> </u> | 4. Drill in school subjects |
| <u> </u> | 5. Nothing, as mental growth is determined by heredity |
| <u> </u> | 6. The type of attention that is easily distracted |
| <u> A </u> | 7. Training of the child's imagination |
| <u> </u> | 8. Repression of natural curiosity |

A child who has a high intelligence will probably: (Check the items to which you agree.)

- | | |
|---------------|------------------------------------|
| <u> </u> | 1. Be physically weak |
| <u> </u> | 2. Rank low in moral qualities |
| <u> </u> | 3. Be "bossy" with other children |
| <u> A </u> | 4. Have a good speaking vocabulary |

PHYSICAL GROWTH

Variations in Rate of Physical Growth

Children between the ages of six and twelve years are found to vary greatly in their growth. Check the items which you think may cause this variation.

- | | |
|------------------|---|
| <u> A </u> | 1. Differences in the hereditary "make-up" of the child |
| <u> A </u> | 2. Kind of food the child eats |
| <u> A </u> | 3. The age of the child, that is, do children grow at different rates at different ages |
| <u> A </u> | 4. Climate |
| <u> A </u> | 5. Sex |
| <u> A </u> | 6. Glandular disorders |

Exposing Children to Chicken Pox

Mrs. C's six-year-old Billy has never had the chicken pox. His playmate next door has a case. What do you think Mrs. C should do? (Check the items to which you agree.)

- | | |
|------------------|--|
| <u> </u> | 1. Expose Billy and get it over with. |
| <u> A </u> | 2. Keep Billy away from his playmate. |
| <u> </u> | 3. Let Billy choose whether he shall take the chance of contracting the disease. |
| <u> </u> | 4. Wait until he is older before exposing him. |
| <u> </u> | 5. Leave exposure to chance. |
| <u> A </u> | 6. Take precautions to prevent Billy from taking the disease. |

Influence of Environmental Factors on Physical Characteristics

Check the physical characteristics in children six to twelve years of age that are chiefly due to environmental influences:

- | | |
|------------------|-----------------------|
| <u> </u> | 1. Color of eyes |
| <u> A </u> | 2. Strength of muscle |
| <u> A </u> | 3. Tuberculosis |
| <u> A </u> | 4. Posture |
| <u> </u> | 5. Color blindness |
| <u> A </u> | 6. Rickets |
| <u> </u> | 7. Color of hair |

Determining the Physical Status of the Child

Check the method which you think is the best for determining the physical well-being of children between the ages of six and twelve years:

- | | |
|------------------|---|
| <u> </u> | 1. Use of height-weight tables |
| <u> </u> | 2. Observation of the type of general activity the child enjoys |
| <u> </u> | 3. Observation of the child's appetite |
| <u> </u> | 4. Observation of the child's disposition |
| <u> A </u> | 5. Physical examination |

Health Program

In a health program for an elementary school child (age six to twelve years), which of the following do you think essential, which non-essential, and which do you think are desirable but could be omitted for some reason?

	Essen- tial	Desir- able	Non-es- sential
1. Yearly medical examination	A		
2. Brushing teeth daily	A		
3. Milk, over 1 pint daily	A		
4. Daily bath		A	
5. Orange or tomato juice daily	A		
6. Summer trip to the seashore			A
7. Cod-liver oil in winter	A		
8. Vaccination for smallpox	A		
9. Immunization for scarlet fever		A	
10. Immunization for diptheria	A		
11. Innoculation for colds			A
12. Windows open at night	A		
13. Filling of decayed teeth	A		
14. Correction of physical defects when possible	A		
15. Comfortable clothing suited to the weather	A		
16. Daily temperature chart			A
17. Regularity of bowel movement	A		
18. Daily exercise, at least partly out-of-doors	A		

SEX EDUCATION

Desirability of Giving Children Sex Information

The following statements concerning the desirability of parents giving sex information to children between the ages of six and twelve years were placed on an eleven step continuum by fifty-five judges.

1. I feel that much unhappiness in adult life is caused by parents failing to give their children adequate sex information.

2. I feel that parents should give their children correct sex information to protect them from false and harmful teaching.

3. I feel that if parents give children help in controlling other habits, sex will take care of itself.

4. I feel that parents can preserve their children's innocence by withholding sex information.

5. I feel that if parents give children sex information it will encourage them to try premature sex experiments.

6. I feel that parents may wait to give their children sex information until the age of thirteen.

7. I believe that children will acquire sex information soon enough without their parents giving it to them.

8. I feel that parents should give their children sex information only if they are careful to avoid over-emphasis.

9. I believe that if parents feel an inhibition about sex, they should refrain from discussing sex matters with their children.

10. I feel that parents should have books on sex education accessible to the child.

11. I feel that a parent should give only very conservative answers to a child's sex questions.

12. I believe that parents should talk about sex to the child only if he asks questions.

13. I feel that parents should take the initiative and give information about sex before the child asks for it.

14. I feel that parents may give only such information as is based on a study of plants and flowers.

15. I feel that only parents who are emotional about sex should not give their children sex information.

16. I feel that under no consideration should a parent give a child sex information.

17. I feel that information which the parents give the child on sex has an equal chance for injuring and for aiding the normal development of the child.

19. I believe that if parents teach children the right moral principles, sex information is unnecessary.

20. I feel that it is highly undesirable for parents to talk to their children about sex.

21. I feel that it is highly desirable for parents to give children all the information that the parents have about sex.

22. I believe that parents might as well give their children sex information as they will find it out any way.

23. I feel that parental attempts to give the child sex information only serves to confuse the child.

24. I believe that the risk of giving children sex information is great enough to make it an undesirable practice for parents.

25. I feel that it is desirable for parents to give truthful answers to their child's sex questions.

26. I feel that parents may give children sex information only if they are sure that they will not discuss it with other children.

27. I feel that it makes children bold for their parents to give them sex information.

28. I feel that the home is preferable to the alley as a source of sex information.

29. I feel that parents are the only ones who can give their children the right attitude regarding sex information.

30. I feel that parents might as well refuse their children food as to refuse them sex information.

31. I feel that sex education is an important duty of parenthood.

32. I feel that parents should tell their child anything he wants to know about sex.

33. I feel that parents should give their children sex information regardless of the neighbors' attitude.

Answering Children's Sex Questions

Six-year-old J said, "Mother where did Mrs. Brown get her new baby?"

What do you think of the following methods?

	Good	Fair	Poor
1. Distract J by talking about something else	_____	_____	<u>A</u>
2. Tell her one of the well-known myths as the stork story, the Doctor's bag, the cabbage patch, etc.	_____	_____	<u>A</u>
3. Answer the question accurately but briefly	<u>A</u>	_____	_____
4. Give her a book on sex education written for children	_____	<u>A</u>	_____
5. Tell her all you know about marital relations and reproduction	_____	_____	<u>A</u>
6. Tell J that she is too young to understand now, that you will tell her when she is older	_____	_____	<u>A</u>
7. Give J some pets, kittens, or rabbits so that she may learn about reproduction from observation.	<u>A</u>	_____	_____

SOCIAL DEVELOPMENT

Aiding Children's Social Adjustment

Which of the following items do you think are very important for helping the child (six to twelve years old) adjust to the group, which do you think are of some help, and which do you think hinder?

	Very Helpful Aids	Helpful Aids	Hin- drances
1. Sense of humor	<u>A</u>	_____	_____
2. Normal physical development	<u>A</u>	_____	_____
3. Good looking clothes	_____	<u>A</u>	_____
4. Strict discipline in the home	_____	_____	<u>A</u>
5. Feeling of superiority to other children	_____	_____	<u>A</u>
6. Success in early attempts in social participation	<u>A</u>	_____	_____
7. Ability to interpret the emotional reactions of others	_____	<u>A</u>	_____
8. Opportunity for frequent social participation	<u>A</u>	_____	_____
9. Instruction in manners and conventions	_____	<u>A</u>	_____
10. Feeling of security in the home	<u>A</u>	_____	_____

	Very Helpful Aids	Helpful Aids	Hin- drances
11. Consideration shown for others in the home	<u>A</u>	<u> </u>	<u> </u>
12. No training, depend on instincts to control social behavior	<u> </u>	<u> </u>	<u>A</u>
13. Well-developed language ability	<u> </u>	<u>A</u>	<u> </u>

Parental Responsibility for Children's Social Adjustment

Check the items for which you as a parent feel responsible.

<u>A</u>	1	Giving your child a good example of social adjustment.
<u>A</u>	2	Reducing occasions for disobedience.
<u>A</u>	3	Giving your child freedom of conduct within reasonable limit.
<u> </u>	4	Demanding obedience of your child.
<u> </u>	5	Selecting your child's activities for him.
<u>A</u>	6	Developing your child's natural abilities
<u>A</u>	7	Preventing your child from domineering the family
<u>A</u>	8	Developing ideals of conduct in your child.
<u> </u>	9	Preventing your child from joining a gang.
<u> </u>	10	Having your child perform frequently in public.
<u>A</u>	11	Preventing overstimulation or undue strain.
<u> </u>	12	Encouraging your child to have his own way at all costs.

Freedom in Choice of Companion

Indorse the statement which expresses your opinion of the freedom of choice that a child between six and twelve years of age should have in the selection of companions.

1. I permit my child to play with any child that he selects as a playmate.
2. I permit my child to play with any child of the same sex that he selects as a playmate.
3. I permit my child to play with any child of the same sex and about the same age that he selects as a playmate.
4. I permit my child to play with only those children I am acquainted with.
5. I permit my child to play with children whose families have a recognized standing in the community.
6. I permit my child to play only with the child that I have selected as his companion.

Self-Reliance

Complete the following statements with the age at which you think a child should be able to perform the task indicated.

1. I think that a child has the ability to take a message over the telephone to relay correctly to another member of the family by the age of _____

2. I think that a child can be left in charge of the household with younger members of the family (not more than three children and none younger than three years and assuming that the father is home at night) by the age of _____

3. I believe that a child should be taught to buy his own clothing without help of an adult by the age of _____

4. I think that a child should be able to take entire care of pets (such as cats, dogs, rabbits) by the age of _____

5. I think that a child should be able to dress himself entirely without help by the age of _____

6. I believe that a child should be able to choose his own books to read from a library list of books suited to his age by the age of _____

7. I believe that a child should be able to get to school on time without being reminded by the age of _____

8. I think that a child should go to school alone a distance of two miles or less when it is necessary to cross several heavy traffic streets by the age of _____

9. I believe that a child should be able to help with the weekly cleaning (e. gr., run the vacuum cleaner, empty waste baskets) by the age of _____

10. I think that a child is capable of taking care of his hair (i. e., wash, comb, decide how it is to be worn, when it is to be cut, etc.) by the age of _____

11. I feel that a child should be taught to manage expenditure of an allowance which includes money for a few articles of clothing (e. g., hose, handkerchiefs) by the age of _____

12. I think that a child should be able to partake in extra-curricula activities, being guided in his choice of activities (e. g., orchestra, school chorus, football, basketball) by the age of _____

13. I believe that a child can be taught to make a good selection of his own meal when dining in a hotel or restaurant by the age of _____

14. I think that a child should be taught how to obtain his own answers to his questions such as "How is silk made?" or "Where does rubber come from?" by the age of _____

Problem Relating to Teaching Truthfulness to Children

The following are incidents of untruthfulness in children with suggested methods of treatment. No one method is expected to solve the difficulty but some methods will be found to have greater possibilities than others: some are good, some poor, and others just fair.

Mr. S reported twelve-year-old John for breaking a window. The policeman came to question John at home. John said that he did not break

the window, but John's mother was afraid that he had as she had previously asked him about his ball and he evaded the subject. The ball the policeman brought with him was John's ball.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
1. The mother should say that John had been home all afternoon	_____	_____	<u>A</u>
2. Warn John that he had better tell who broke the window or the policeman would take him to jail	_____	_____	<u>A</u>
3. The mother should tell John that if he broke the window she will help him pay for the damage	<u>A</u>	_____	_____
4. The mother should tell John that she doesn't know what she has ever done to deserve a son that acts as he does	_____	_____	<u>A</u>
5. The mother should challenge John's self-respect to face the consequences of his act	<u>A</u>	_____	_____

Mother called for six-year-old Betty who had been to the birthday party of a playmate. The mother said, "Tell Mrs B that you had a nice time." Betty replied, "No. I didn't."

What do you think of these methods of treating the problem?

	Good	Fair	Poor
6. The mother should tell Betty that she can have some candy when she gets home if she will tell Mrs. B that she had a good time	_____	_____	<u>A</u>
7. The mother should thank Mrs. B for her courtesy to Betty	<u>A</u>	_____	_____
8. The mother should tell Betty that she cannot go to any more parties if she can't be polite	_____	_____	<u>A</u>
9. The mother should tell Betty that she is glad that she has a truthful daughter	_____	_____	<u>A</u>
10. The mother should laugh at the situation	_____	_____	<u>A</u>

A father said to his ten-year-old son, "You did not bring in the wood as you said you did."

The son replied, "Well, I guess that you lied when you told mother to tell Mr. Jones that you were not at home and hid in the cellar."

What do you think of these methods of treating the problem?

	Good	Fair	Poor
11. The father should whip the boy for being disrespectful to him	_____	_____	<u>A</u>
12. The father should never lie in the son's presence	<u>A</u>	_____	_____
13. The father should tell the son that it is all right for "grown-ups" to lie but not children	_____	_____	<u>A</u>
14. Father should tell the son that the actions of another do not excuse him from wrongdoing	_____	<u>A</u>	_____
15. The father should explain his reason for avoiding Mr. Jones	_____	<u>A</u>	_____

The vase lay broken on the floor. Mother grabbed the six-year-old child, "I will teach you not to touch my things." The child frightened said, "I didn't break it, dolly did."

What do you think of these methods of treating the problem?

	Good	Fair	Poor
16. The mother should tell the child that she doesn't love her any more because she has told a lie	_____	_____	<u>A</u>
17. The mother should spank the doll as an example to the child	_____	_____	<u>A</u>
18. The mother should be more sympathetic in the treatment of the child's offenses	<u>A</u>	_____	_____
19. The mother should explain to the child that the doll could not break the vase	_____	<u>A</u>	_____
20. The mother should help the child to overcome her fears	<u>A</u>	_____	_____

Six-year-old M came running into the house and told her mother that an automobile had chased her up the yard. When asked where the car was now, she said that she guessed that it was an aeroplane and that it had flown over the house.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
21. Tell the child that nice little girls do not tell fibs	_____	_____	<u>A</u>
22. Enter into the play but let the child know that it is only a game for fun	<u>A</u>	_____	_____
23. Explain the improbability of an aeroplane coming into the yard	_____	_____	<u>A</u>
24. Laugh at the child's story	_____	_____	<u>A</u>
25. Wash M's mouth out with soap	_____	_____	<u>A</u>

Tolerance for Untruths in Children

Indorse the statement which expresses your opinion of the degree of tolerance that parents should have for the untruths of children five to seven years of age. (An untruth may or may not be an attempt to deceive.)

1. I believe that untruthfulness in young children is always excusable as it is an inherited characteristic.

2. I feel that parents many times should excuse young children's untruths as they are due to the child's inability to report incidents accurately.

3. I feel that sometimes children's untruths are excusable and other times inexcusable depending upon their cause.

4. I believe that a child should never be excused for telling an untruth as to do so is to encourage other juvenile misdemeanors.

5. I feel that parents should never tolerate children's untruths as a child instinctively knows when he is telling the truth.

Tolerance Toward Older Children's Lies

Indorse the statements which express your opinion regarding the lies of other children. A lie is a deliberate attempt to deceive. These statements concern children eight to twelve years of age.

1. I feel that lying is dishonorable, never justifiable, and detrimental to the child.

2. I feel that a child's lie is an unforgivable sin.

3. I want my child to become a skilled liar as it shows superior intelligence to be able to lie without getting caught.

4. I feel that truth is a desirable ideal but that it is only attainable part of the time.

5. I feel that the ability to lie is an asset and can be developed to the child's advantage.

6. I feel that lying furnishes a child with an excellent means for escaping difficulties without much harm to his personality.

7. I feel that a child should learn that truth pays in about 90 per cent of the cases.

8. I feel that there are times when it is more honorable for a child to lie than to tell the truth.

9. I feel that lying breeds distrust and results in disrespect of child's associates.

Problems Relating to Children's Disregard of Property Rights

The following are incidents regarding the child's disregard of property rights and suggested methods of treatment. No one method may solve the problem, but some offer more possibilities than others.

J, a nine-year-old boy, took money from his father's cash register and bought a dozen cannon fire-crackers for the Fourth of July.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
1. Seclude the boy in his room all the day on the Fourth	_____	_____	_____A
2. Have J return the fire-crackers and the money	_____	_____A	_____
3. Read J accounts of boys who have been injured shooting fire-crackers	_____	_____	_____A
4. Show J some harmless way of making a big noise	_____	_____A	_____
5. Destroy the fire-crackers	_____	_____	_____A
6. Give J an allowance	_____A	_____	_____

Eight-year-old K was caught going through the desks before school and taking red pencils. He said that he was collecting red pencils and now had twenty-four.

What do you think of these methods of treatment?

	Good	Fair	Poor
7. Start him to school at a later hour	_____	_____	_____A
8. Suggest other articles that he might collect, as rocks, stamps, etc.	_____A	_____	_____
9. Make him return every pencil before all the school	_____	_____	_____A
10. Explain why he must not take other people's things	_____A	_____	_____
11. Buy him a gross of red lead pencils	_____	_____	_____A
12. Tie up his hand in red cloth	_____	_____	_____A

Twelve-year-old H and his chum stole a spare tire from a car and sold it to the junk man for a dollar. They used the money to go to the movies and to buy "hot dogs." This is the third time the boys have been guilty of similar offenses.

What do you think of these methods of treating the problem?

	Good	Fair	Poor
13. Send H to the reform school	_____	_____	_____A
14. Find H a job and put him to work after school	_____A	_____	_____
15. Interest H in joining the Boy Scouts	_____A	_____	_____
16. Forbid H to see his pal	_____	_____	_____A
17. Have some one take H's bicycle	_____	_____	_____A
18. Parents should deny that H took the tire	_____	_____	_____A

USE OF MONEY

Children's Allowance

Indorse statements to which you agree concerning an allowance or a sum of money given to the child to manage. They apply to children between six and twelve years of age.

Withholding the Allowance

I feel that an allowance should be withheld:

- | | |
|--------------|---|
| _____ | 1. For poor grades earned in school |
| _____ | 2. For disobedience |
| _____ | 3. As a penalty for making a foolish purchase |
| <u> A </u> | 4. Never |

Supplementing the Allowance

I feel that an allowance may be supplemented:

- | | |
|--------------|--|
| <u> A </u> | 5. By pay for extra work done in the home |
| <u> A </u> | 6. Through some socially approved business venture |
| <u> A </u> | 7. By a loan from some member of the family |
| _____ | 8. By prizes for good grades or good conduct |

Amount of Allowance

I feel that the major factors to be considered in deciding the amount of allowance are:

- | | |
|--------------|---|
| <u> A </u> | 9. The needs of other members of the family |
| <u> A </u> | 10. The needs of the child |
| <u> A </u> | 11. The size of the family income |
| _____ | 12. The amount that the child's playmates spend |
| <u> A </u> | 13. The child's ability to handle money |
| _____ | 14. The amount of money the parent had as a child |
| _____ | 15. The amount that is given to another child in the family |

†

Reason for Allowance

I feel that an allowance should be given:

- | | |
|--------------|---|
| _____ | 16. As a wage for work done |
| <u> A </u> | 17. As the child's share in the family income |
| <u> A </u> | 18. As a means of educating the child in the use of money |
| _____ | 19. As a reward for good conduct |

Teaching Children Habits of Saving

Mrs. B wants her six-year-old boy to acquire intelligent habits of saving. What do you think of these methods?

	Good	Fair	Poor
1. Put money in the savings account for him each week	_____	_____	<u> A </u>
2. Start him saving for some small article he desires	<u> A </u>	_____	_____
3. Talk to him about a "rainy day" and the necessity of saving	_____	_____	<u> A </u>
4. Double the money that he saves to encourage further saving	_____	_____	<u> A </u>
5. Wait until he is older to start the training	_____	_____	<u> A </u>

Procedures for Teaching Children Good Judgments in Handling Money

Check in the appropriate column the following methods for teaching good judgment in handling money to children between the ages of six and twelve years.

	Good	Fair	Poor
1. Give the child money only for specified purchases			A
2. Pay the child for performing routine duties in the home			A
3. Take the child on well-planned buying trips	A		
4. Give an allowance which covers expenditure for some necessities as pencils, handkerchiefs, etc.	A		
5. Provide parental example in wise attitudes toward money	A		
6. Provide opportunity for the child to loan money to another member of the family	A		
7. Provide opportunity for the child to borrow and repay a loan from some member of the family	A		
8. Put money for him in a savings account			A
9. Provide opportunity for the child to engage in some business venture of the family	A		

FREEDOM OF VOCATIONAL CHOICE

If your daughter has the ability and wishes to do so, would you help her to become a:

	Yes	No
1. Farmer	A	
2. Aviatix	A	
3. Chemist	A	
4. Doctor	A	
5. Undertaker	A	
6. Filling Station Operator	A	
7. Radio Operator	A	
8. Veterinary Surgeon	A	

If your son has the ability and wishes to do so, would you help him to become a:

	Yes	No
1. Farmer	A	
2. Aviator	A	
3. Chemist	A	
4. Doctor	A	
5. Undertaker	A	
6. Filling Station Operator	A	
7. Radio Operator	A	
8. Veterinary Surgeon	A	

If your daughter has the ability and wishes to do so, would you help her to become a:

	Yes	No
1. Teacher	A	
2. Cook	A	
3. Milliner	A	
4. Stenographer	A	
5. Dressmaker	A	
6. Bookkeeper	A	
7. Nurse	A	
8. Manicurist	A	
9. Singer	A	
10. Clerk	A	

If your son has the ability and wishes to do so, would you help him to become a:

	Yes	No
1. Teacher	A	
2. Cook	A	
3. Milliner	A	
4. Clerk	A	
5. Stenographer	A	
6. Dressmaker	A	
7. Bookkeeper	A	
8. Nurse	A	
9. Manicurist	A	
10. Singer	A	

If you checked "9" above (that you would help your son to become a manicurist if he had the ability and wished to do so), did you check:

1. Because you firmly believe that everyone has the right to follow the vocation of his choice? yes no
2. With the mental reservation that you would try to interest him in some other occupation? yes no
3. Because you are indifferent to your son's choice of vocation? yes no
4. Because you feel that your son's abilities are especially well adapted to the occupation? yes no

If you did not check "9" above (that you would help your son to become a manicurist if he had the ability and wished to do so), did you fail to check because:

1. You refuse to help your son enter an occupation you consider "sissy?"
yes no
2. The occupation is contrary to social custom? yes no
3. You expect him to follow his father's occupation? yes no
4. You think parents should select the child's vocation for him? yes no
5. Would you have checked it if your son were not of average intelligence? yes no

APPENDIX IV

**FORMS AND DATA REGARDING A STUDY OF
THE NEEDS OF AND PROGRAM OF
LEARNING FOR HIGH SCHOOL
STUDENTS**

DIRECTIONS TO JUDGES FOR DETERMINING PROCEDURES REPRESENTED IN TEST ITEMS

You are asked to consider in relation to each of the following tests a list of positive and negative procedures. After you have read the test item in each case, please glance through the list of procedures and place the number of each procedure involved in the item on the lines provided at the right. You will note that some of the items involve several procedures.

I. Principles to be considered in relation to Test I.

A. Positive

- 1 Development of humor
- 2 Development of self-reliance
- 3 Encouraging self-expression
- 4 Reasonable explanation of difficulty at child's level of understanding
- 5 Encouraging family coöperation in removing difficulty
- 6 Development of assets and abilities
- 7 Development of a sense of security

B. Negative

- 8 Age discrimination
- 9 Sex discrimination
- 10 Limiting or depriving opportunity for self-expression
- 11 Limiting opportunities for family coöperation
- 12 Decreasing or undermining sense of security
- 13 Encouraging overdependence and lack of self-confidence
- 14 Encouraging petty quarreling and family conflicts

II Principles to be considered in relation to Test II

A. Positive

- 15 Developing assets and abilities
- 16 Finding cause of difficulty
- 17 Developing self-expression
- 18 Developing self-confidence
- 19 Encouraging social adjustment
- 20 Attention to constructive factors and possibilities

B. Negative

- 21 False or unwise rationalization or compensation
- 22 Complicating chances of satisfactory social adjustment
- 23 Ego deflation: humiliation, blame, etc.

III. Principles to be considered in relation to Test IIIa

A. Positive

- 24 Withholding attention

- B. Negative
 - 25. Undue sympathy
 - 26. Unwise use of rewards: bribery
 - 27. Unwise punishment
 - 28. Ridicule
 - 29. Threatening sense of security
- IV. Principles to be considered in relation to Test IIIb
 - A. Positive
 - 30. Search for difficulty
 - B. Negative
 - 31. Encouraging and excusing lack of emotional control
 - 32. Undue reliance upon heredity
 - 33. Unwise punishment
- V. Principles to be considered in relation to Test IV
 - A. Positive
 - 34. Encouragement of aggressiveness of a child's ability to "hold his own" in his social group
 - 35. Expression of disapproval of lack of aggressiveness
 - 36. Explanation of difficulty in terms intelligible to child
 - B. Negative
 - 37. Encouraging overdependence
 - 38. Undue sympathy
 - 39. Ridicule and humiliation
 - 40. Unwise punishment
 - 41. Limiting opportunity of learning to protect property
- VI. Principles to be considered in relation to Test V
 - A. Positive
 - 42. Removal of possible causes
 - 43. Attempt to reassure child
 - 44. Positive conditioning toward object of fear
 - B. Negative
 - 45. Ignoring fear
 - 46. Use of fear as means of control
 - 47. Ineffective procedures; failure to deal constructively with difficulty
 - 48. Use of ridicule
 - 49. Repressing fear
- VII. Principles to be considered in relation to Test VI
 - A. Positive
 - 50. Helping child to check with reality without undue encouragement or discouragement of imagination
 - B. Negative
 - 51. Attaching undue dissatisfaction to imaginative story telling
 - 52. Argument as to possibilities involved
 - 53. Encouragement of overuse of imagination
 - 54. Unwise appeal to emotions

VIII. Principles to be considered in relation to Test VII

A. Positive

55. Encouraging or providing opportunity for social adjustment

56. Attempt to interest child in forming social adjustments

B. Negative

57. Discouraging social adjustment

58. Indifference to social adjustment

59. Unwise punishment

60. Establishment of poor motive; bribery

61. Attempt to make child feel inferior; "queerness"

62. Undue reliance upon heredity

TEACHER'S DAILY RECORD BLANK

Date Time

Topic

Type of Lesson: Lecture..... Lecture-Discussion..... Discussion.....

Remarks:

Level of Group Interest: Low..... Mediocre..... High.....

Remarks:

Level of Personal Interest: Low..... Mediocre..... High.....

Remarks:

Group Participation: Few..... Several, or majority..... Practically everybody.....

Remarks:

Significant questions or responses:

Remarks:

Table 1
Rank Order of Test Items According to Index of Selectivity

Rank	Index trial r	Item	Rank	Index trial r	Item	Rank	Index trial r	Item	Rank	Index trial r	Item	Rank	Index trial r	Item	Rank	Index trial r	Item
1	.971	92	33	.579	67	65	.464	137	97	.362	62	129	.253	60	129	.253	60
2	.887	100	34	.572	91	66	.452	76	98	.354	150	130	.241	132	130	.241	132
3	.835	93	35	.556	85	67	.450	21	99	.352	15	131	.239	75	131	.239	75
4	.821	156	36	.550	17	68	.447	37	100	.348	151	132	.237	12	132	.237	12
5	.784	114	37	.546	111	69	.444	51	101	.348	4	133	.230	142	133	.230	142
6	.753	98	38.5	.543	136	70	.440	13	102	.347	45	134	.229	89	134	.229	89
7	.745	107	38.5	.543	140	71	.435	103	103	.344	157	135.5	.222	68	135.5	.222	68
8	.742	44	40	.542	102	72	.433	154	104	.344	81	135.5	.222	11	135.5	.222	11
9	.732	155	41	.534	57	73	.431	123	105	.341	128	137	.214	29	137	.214	29
10	.730	104	42	.533	94	74	.427	22	106	.340	9	138	.194	152	138	.194	152
11	.723	120	43	.532	129	75	.426	69	107	.335	43	139	.193	63	139	.193	63
12	.699	159	44	.531	147	76	.422	95	108	.329	148	140	.191	38	140	.191	38
13	.695	110	45	.530	153	77	.420	16	109	.327	47	141	.188	14	141	.188	14
14	.680	69	46	.522	55	78	.417	64	110	.326	3	142	.182	73	142	.182	73
15	.684	108	47	.520	121	80	.410	138	111	.322	50	143	.178	72	143	.178	72
16	.680	45	48	.516	145	80	.410	105	112	.318	134	144	.174	28	144	.174	28
17	.677	101	49	.515	74	80	.410	86	113	.308	27	145	.171	36	145	.171	36
18	.674	18	50	.513	35	82.5	.409	122	114	.307	41	146	.144	159	146	.144	159
19	.662	43	51	.508	141	82.5	.409	127	115	.306	30	147	.140	62	147	.140	62
20	.659	115	52	.497	6	84	.406	34	116	.303	78	148	.137	65	148	.137	65
21	.655	112	53	.493	149	85	.403	24	117	.300	14	149	.133	159	149	.133	159
22	.649	54	54	.489	90	86	.402	42	118	.299	77	150	.128	23	150	.128	23
23	.647	119	55	.482	125	87	.395	113	119	.292	31	151	.125	80	151	.125	80
24	.636	134	56	.480	53	88	.392	49	120	.291	130	152	.116	126	152	.116	126
25	.633	118	57	.479	44	89	.386	117	121	.276	131	153	.103	83	153	.103	83
26	.623	25	58	.472	33	90	.383	116	122	.275	48	154	.103	59	154	.103	59
27	.603	26	59	.470	20	91	.380	82	123	.266	8	155	.087	32	155	.087	32
28	.596	40	60.5	.469	71	92	.377	58	124	.262	39	156	.082	66	156	.082	66
29	.590	2	60.5	.469	124	93	.374	106	125	.261	87	157	.069	97	157	.069	97
30	.589	96	62	.467	84	94	.372	109	126	.261	56	158	.028	7	158	.028	7
31	.582	46	63.5	.466	10	95	.371	109	127	.257	79	159	.033	99	159	.033	99
32		146	63.5	.466	5	96	.365	13	128	.256	19						

EXCERPTS FROM PROGRAM OF LEARNING EXPERIENCES ADMINISTERED TO HIGH SCHOOLS

UNIT I: THE FAMILY

Foreword

Most of us live in some form of home, and we participate in some form of family life. It is easy, perhaps, in the rush of events to lose sight of the importance of our family life and the far-reaching effect of our family relationships. Nevertheless, much of what we are, what we do, and what we will be in the future depends upon our families and our family relationships. In our homes and in our contacts with the members of our families, we are perhaps more truly "ourselves" than we are anywhere else or under any other circumstances. Whether or not our family relationships are happy is a matter of great importance.

Each of us has it within her power to affect, in some measure, the happiness of her family group and the personality development of those with whom she comes in such intimate contact. In spite of the fact that parents and children do not always agree, in spite of older brothers who sometimes unmercifully tease their sisters, and in spite of those mischievous younger children who seem such a trial to us sometimes, most of us agree that the family as an institution offers unlimited opportunities for what we may term "wholesome personality development."

UNIT II: CHILD STUDY

Foreword

In cooperative family life, we are often confronted with the problem of making certain adjustments to younger brothers and sisters. A certain amount of information about the young child is often a great help in understanding a younger brother or sister. It often makes possible cooperation on the part of all members of the family in giving the baby an opportunity to develop physically, mentally, emotionally, and socially under better conditions than might otherwise be possible.

The welfare of the young child is a matter of concern to everybody, regardless of whether or not he himself is a parent. Even from the standpoint of good citizenship, one is able to cast his vote more intelligently in matters which pertain to physical protection, education, and recreation for young children if he knows a few important principles of child development.

Moreover, it may be argued that the knowledge of a few important principles of child development may operate to some extent to give us an idea of what to expect as parents, although of course that is not our sole

purpose in undertaking this study. Nevertheless, parents who are confronted with the responsibility of bringing up their children with little or no understanding of these important principles of child development often make serious errors which might never have been had they known at least where they might have secured reliable information and guidance.

Exercises

1. Read the following selections with the main purpose of becoming acquainted with the characteristics and needs of the young child:

Goodspeed, Helen C., and Johnson, Emma: *Care and Training of Children*. Philadelphia, Pa.: J. B. Lippincott, [c. 1929]. Pp. xviii, 219. Read Part I, Chapter I and II, pages 1-10.

Groves, Ernest R., Skinner, Edna L., and Swenson, Sadie J.: *The Family and Its Relationships*. Chicago, Ill.: J. B. Lippincott, [c. 1932]. Pp. xii, 321. Read Unit XII, Problem 1, pages 195-198.

Friend, Mata Roman, and Schultz, Hazel: *Living in Our Homes*. New York: D. Appleton, [c. 1933]. Pp. xviii, 274. Read pages 21-49.

2. On the observation blank which is provided you with this assignment, record your observations of the behavior of some small child, two to six years old, either in your own home or in a neighbor's home.

3. On the basis of your observations write a few paragraphs indicating:

a. Those things which were provided in the child's environment which were designed for his comfort and well-being

b. Things which were lacking in the child's environment but would be highly desirable in a world adapted to his needs

4. If you have time and opportunity, see if you can find snapshots or magazine pictures which may be of interest to your group in connection with this assignment.

5. Have you ever seen old pictures, for example, old-fashioned tin-types, of babies and very young children? How were the children dressed? What is your opinion of the practicality of such costumes?

6. Summarize several reasons why a child must not be considered a "miniature adult."

SELF-RELIANCE RATING SCALE

Rate some child you know on the amount of self-reliance he shows. Add items on blanks provided for that purpose if you need them and modify any of the other items to fit circumstances. If you wish to see how the child you rate compares with the children rated by the other members of your class, you may secure a rough index in the following manner: a low three points for each check in column 1, two points for each check in column 2, and one point for each check in column 3; divide the total sum by the number of items you checked. On this basis what would a final index of 1 indicate as to the amount of self-reliance possessed by the child? An index of 2? What would be the significance of a score lying between 2.0 and 2.9?

Usually (1)	Sometimes (2)	Never (3)
----------------	------------------	--------------

Eating

Comes to table without urging		
Handles own spoon		
Handles own knife		
Handles own fork		
.....		
.....		
.....		

Sleeping

Goes to bed when told it is time		
Willing to go to bed alone		
.....		
.....		
.....		

Toilet habits

Reports need		
Fastens and unfastens clothes		
Washes hands without being told		
Brushes own teeth		
Bathes self without assistance		
.....		
.....		
.....		

Dressing and undressing

Removes (puts on) night clothes		
Puts on undergarments		
Puts on dress or suit		
Buttons and unbuttons clothes		
Puts on shoes		
Laces shoes		
.....		
.....		
.....		

Play and household activities

Plays alone without complaint		
Settles minor disputes		
Brave about minor hurts		
Puts away toys after use		
Shares toys voluntarily		
Stands up for own rights		
.....		
.....		

	Usually (1)	Sometimes (2)	Never (3)
Runs simple errands (for example, dust pan) -----			
Answers doorbell and calls person -----			
Empties ash trays (waste baskets) -----			
Helps set table -----			

SOCIAL DEVELOPMENT AND PLAY

Exercises

1. What is likely to happen in the personality development of a child who is closely restricted to adult companionship?

2. What would you do to encourage a child of six years who is habitually bossed around, even by children younger than he is, to stand up for his rights? Would you sympathize with him when a smaller child "picks on him"? Punish him? Ridicule him? Justify your answers.

3. Bring to class and discuss critically pictures (snapshots, magazine pictures, etc.) showing children engaged in various play activities. If you are interested in scrapbooks, you will be surprised to see what an interesting book you can prepare with such pictures. Such pictures may arouse considerable interest on the room bulletin boards before you put them into your book.

4. Gwen and Harold (high school pupils) have "prowled" through the department stores and toy shops, looking for suitable Christmas presents for their niece, Mary aged three and one-half years, and their two nephews, Jimmie aged seven months and John aged two years. They are trying to make a selection from the following list. Check the items you consider suitable and justify your selection. (Disregard budget.)

For John (Aged two years)	For Mary (Aged three and one-half years)	For Jimmie (Aged seven months)
1. Kiddie kar	1. Small broom and dust pan	1. Small oilcloth kitty
2. Jig saw puzzle	2. Blunt scissors	2. Metal airplane
3. Bright, rubber ball	3. Toy balloons	3. Toy "bunny" covered with real fur
4. Chest of carpenter's tools	4. Small, china tea set	4. Wax crayons
5. Cloth picture book	5. Sand box and sand	5. Large, enamelled beads on string

For John (Aged two years)	For Mary (Aged three and one-half years)	For Jimmie (Aged seven months)
6. Modelling clay	6. Toy clown: dances	6. Musical top
7. Metal automobile (runs when wound)	7. Large, sturdy doll bed	7. Small, tin horn
8. Sled	8. Small (not toy) kitchen utensils	8. Celluloid rattle (with pacifier attachment)

5. What are some of the main characteristics which you would expect of a book suitable for the little child two to three years old?

6. Discuss the appropriateness of the following books and stories for the young child four to seven years old:

- | | |
|---|-----------------------------|
| a. Night Before Christmas | g. Jack the Giant Killer |
| b. Red Riding Hood | h. Little Black Sambo |
| c. Mother Goose | i. Babes in the Woods |
| d. Grimm's Fairy Tales | j. Horatio Alger Books |
| e. One Hundred Best Poems
for Boys and Girls | k. Peggy and Peter |
| f. Blue Beard | l. Peter Rabbit Stories |
| | m. Mother West Wind Stories |